iTRAX® Operator Interface 5.4

Nordson Corporation • Amherst, Ohio • USA

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Introduction

This Help covers version 5.4 of the iTrax Operator Interface. The Nordson® iTrax® System is a configurable spray control and monitoring system. It consists of a combination of iTrax hardware modules that communicate over a CAN network (Controller Area Network) with iTrax software running on a Windows PC. The software consists of an OPC server and OPC Local Client (the iTrax Operator Interface). Each hardware module has an embedded processor, so they can operate independently after they are set up on the CAN network.

The CAN network is an industrial standard differential serial bus designed to be robust in electromagnetically noisy environments. The iTrax System uses a Nordson proprietary data protocol, so only Nordson modules can be on the CAN network. External data exchange is provided by the OPC Server. OPC is an industrial standard that specifies the communication of real-time plant data between control devices and computers from different manufacturers. The Nordson iTrax OPC Server is OPC DA 2.0 compliant.

Hardware

The iTrax modules are:

- Spray Monitor modules - one monitor for each lacquer spray gun.
- Spray Controller modules - one controller for each lacquer spray gun and CleanSpray® gun combination.
- PRx modules - one module for each spray machine or spray gun.

The **Spray Monitor modules** monitor system operation, provide the operators with warnings and alarms, and can shut down the coating system if operating parameters go out of the setpoint ranges.

The **Spray Controller modules** provide coil driving voltage, current, and trigger timing for lacquer and CleanSpray gun operation.

The **PRx modules** provide inputs and outputs to control base pressure and belt speed, and monitor fluid temperature and belt drive speed. The Extended Can-In-Pocket feature monitors can chuck vacuum, gun mount position, can-in-pocket sensor, and belt movement, and turns on the CIP fault output if a fault is detected. The fault output can be used by the Spray Monitor or a customer device to turn on an alarm and to shut down the spray machine.

Software

The iTrax Software Package contains the OPC Server and OPC Local Client (the iTrax OI). The iTrax software runs on a PC equipped with the Windows® XP operating system.

The base Software Package includes the following items:

- CD-ROM containing the OPC Server and OPC Local Client applications
- “Let’s get started” software and hardware installation guide
- iTrax Spray Monitor System Operator Interface User’s Guide
- iTrax Spray Monitor System “AT A GLANCE” product brochure
- CAN to USB Adapter, which includes:
    - Adapter, CAN 2.0B to USB V1.0 or 2.0, USB powered Type B female +5VDC @ 310mA max.
    - DB-9 male CAN connector, 4.25” long x 2.125” wide x 1” high (without mating connectors)
    - USB cable, 3ft long , USB connectors Type A Male to Type B Male
    - CD-ROM with USB driver

    - CANUSB/CD-L2 Drivers and CAN API Version 4.00
    - CANusb Hardware Reference guide
    - Softing License Agreement
- CAN network connector (female DB-9 connector with screw terminals and backshell)
- CAN network termination resistors (121 ohm, 1%, 1/4W to be installed in DB-9 backshell and at last module on the network)

The **OPC Server** collects data from the modules on the CAN network once a second and organizes it per module inputs and outputs. This raw data can be viewed within the server application. As a diagnostic feature, the server also provides an alive signal so the clients will know if the server is shut down. The OPC server serves data to the OPC Client. The OPC Server and OPC Local Client are usually run on a computer located near the spray machine.

The **OPC Local Client** (the iTrax OI) runs on the same computer as the OPC Server. The iTrax OI is the graphical user interface for the system modules. It displays near real time data in a dedicated window (called a faceplate) for each module.

System Configuration

Systems can be configured in the following ways:

- iTrax OI and Spray Monitors only
- iTrax OI and Spray Controllers only
- iTrax OI and PRx Modules only
- iTrax OI, Spray Monitors, and PRx Modules
- iTrax OI, Spray Monitors, and Spray Controllers
- iTrax OI, Spray Monitors, Spray Controllers, and PRx Modules

The Spray Monitors, Spray Controllers, and PRx modules are all attached to a single CAN network.

Options

The system can also have the following options:

- Local or Remote OPC Data Logger software
- electronic pressure controller, Anybus modules, proximity switches, and other sensors for optional system control and monitoring
- CAN-to-CAN gateways, for very long networks requiring electrical isolation or systems with a large number of modules
- Remote OPC Client

The optional OPC Remote Client (remote iTrax OI) provides operators or managers the ability to run or monitor the iTrax System from remote computers on a factory installed Ethernet network. The computer running the iTrax OPC server and Local Client must be connected to the customer's Ethernet network, and the iTrax security system must be set up to allow remote access to the server.

What's New in Version 5.4

Version 5.4 of the iTrax software adds the capability to handle Dual Index Spray Machines. Your Nordson representative must enable this feature through the Nordson Service screen for the Spray Controller (Spray Controller Configuration>Lacquer Gun Service tab.)

iTrax System Hardware Requirements

Minimum System Hardware	1 iTrax Spray Monitor, ***(See Note 1)*** PRx module, or Spray Controller module 1 CAN-to-USB network adapter ***(See Note 2)***
Recommended System Hardware	110 modules: Spray Monitors, Spray Controllers, and PRx modules
Network Connections	Refer to the instructions for each module for wiring and termination instructions.

NOTE 1: While version 3.0 of the iTrax software will work with any iTrax Spray Monitor module, the Can-In-Pocket and spray duration output features will only work with the newer spray monitor module, part 1065268. When used with the old-style iTrax Spray Monitor module, the Can-In-Pocket and spray duration output features will not appear in the operator interface. The iTrax system does not support SM-1 or SM-2 Spray Monitor modules.

NOTE 2: This item is included with the iTrax Software Installation Kit.

Minimum PC and Software Requirements

Type	IBM-compatible personal or industrial computer
Operating System	Windows XP or Windows 2000 with the most current Service Pack
Software	iTrax software: ***(See Note)*** OPC Local Client (Operator Interface) and OPC Server
Processor	Pentium 4 2.2 GHz
RAM	512 Mb
Video	SVGA, 2 Mb, 1024 x 768, 16-bit color
Free Hard Drive Space	30 Mb for program software 10 Gb for data storage
Removable Media	CD-ROM drive
Input Device	Touch screen or Keyboard and mouse
CAN-to-USB Adapter	1 USB port (version 1.0 or 2.0) 1 9-pin female DB-9 adapter ***(See Note)*** 121 ohm termination resistor ***(See Note)***

NOTE: Noted items are included with the iTrax Software Installation Kit.

CAN Network Address Switch Settings

All modules must have a unique network address setting (except when associating PRx modules with Spray Monitors). Care must be taken not to assign modules the same network address.

Network Configuration Range

Module	Start	End	Comment
Spray Monitor	01	63	Switch range is 00 to 99 (see Note A).
PRx	01	63	Associated with Spray Monitors (see Note B).
PRx	64	98	Not associated with Spray Monitors (see Note B).
Spray Controller	101	263	Switch range is 000 to 999 (see Note C).

Note A: The factory default switch setting is 01. Valid switch settings for Spray Monitors are 01 through 63. **Do not** set to 00 or 64 through 98. Setting the switches to 99 and cycling power will restore the module to the factory default configuration.

Note B: The factory default switch setting is 01. Valid switch settings for PRx modules are 01 through 98.

Do not set to 00. Setting the switches to 99 and cycling power will restore the module to the factory default configuration. For normal pressure control applications, the PRx is associated with a Spray Monitor by setting the address switch settings to the same value for both Spray Monitor and PRx. The actual network address of a PRx module is 64 plus the address switch setting.

For example, a PRx module set to 01 is address 64 on the network and a PRx module set to 63 is address 127 on the network. Make sure the actual network address of the PRx module does not conflict with other modules. If a PRx module is not associated with a Spray Monitor, use switch settings 64 through 98. Note that if the module is set to 98, the actual network address is 162, which may conflict with a Spray Controller address.

Note C: The factory default switch setting is 100. Valid switch settings for Spray Controllers are 001 through 511. For compatibility issues, do not set the address to 000 through 099 and 264 through 998. Setting the switches to 999 and cycling power will restore the module to the factory default configuration.

Recommended Maximum Network Configuration

Module	Start	End	Comment
Spray Monitor	01	10	Start with gun as address 01.
PRx	01	10	Pair with Spray Monitors.
PRx	64	65	Not associated with Spray Monitors.
Spray Controller	101	110	Makes it easy to associate with gun (Spray Monitor).

This example would accommodate a typical spray line having 5 spray machines with 2 guns per machine and have 32 modules on the network excluding the CAN to USB Adapter. For systems larger than this, it is recommended that a separate computer and network be used.

System Options

- Spray Monitors
- Spray Controllers
- PRx Modules
- OPC Remote Client: The optional OPC Remote Client software package, part 1051821, allows the iTrax Spray Monitor System OI to be viewed on additional computers on your Ethernet network. The software package includes a CD-ROM containing the software and an installation guide.
- OPC Data Logger: The optional OPC Data Logger software package, part 1051822, has powerful graphing and data archiving capabilities and comes with its own online help system (English only). When the OPC Data Logger is installed, a shortcut is created on the Windows desktop. The software package includes a CD-ROM containing the software and an installation guide.
- Can-In-Pocket: The Can-In-Pocket (CIP) feature uses a proximity sensor to verify that a can is in the spray pocket before the spray gun fires. CIP allows the spray monitor to verify that a timer signal is received for every can that is detected.

  When CIP is used, the spray monitor must receive both a timer and CIP signal each time a can is detected and a gun fires. If either the CIP or timer signal is not received, the Operator Interface displays a fault.

  This option requires one CIP proximity sensor to be mounted in the spray pocket and wired to the CIP inputs on the left side of the Spray Monitor module. Refer to the Spray Monitor instructions and talk to your Nordson representative for more information.
- Actual Spray Duration Output: This feature allows external monitoring of the actual spray duration as determined by material flow. It can be used for external closed loop control of the real spray duration or as another indication that flow analysis has occurred. For either case, it requires that the external PLC or timer be wired to the OUT output terminals on the Spray Monitor.

  If the spray duration is very short, the iTrax system can compensate for a PLC that has a scan time that is slower than the actual spray duration. The value you set as the Minimum Spray Output is the minimum number of milliseconds that the Spray Monitor will apply for every flow analysis. Refer to Minimum Spray Output for more information.

Refer to the Spray Monitor instructions and talk to your Nordson representative about adding options to your system.

Using Help

NOTE: Because most iTrax Systems have a touch screen interface, the instructions included in this online Help system use the term "touch" to describe selecting a button on screen. If the iTrax OI is installed on a standard PC with a keyboard and mouse, a left-click with the mouse accomplishes the same action as a touch.

 Touch the **Help** button on the main button bar and select

 Touch the **Display Help** button to access the online help system.

The Table of Contents consists of book icons that expand to display the topics within each book. Touch the closed book icon  to expand the menu item. Touch the open book icon  to collapse the menu item.

The help topics contain links to more detailed information. Two types of links are shown in the help topics:

- Blue underlined text opens a new topic.
- Green underlined text expands to display either a more detailed explanation of a term or an OI screen that is called out in the topic. Touch the green underlined text to display the information. Touch the green underlined text again to hide the information.

  Example of drop down text.

Common iTrax OI Buttons

These buttons are used on most iTrax OI screens and windows.

 accepts actions or changes you make to settings. The changes are saved and the window closes.

 cancels actions or changes you make to settings. The changes are discarded and the window closes.

 on configuration windows, changes settings to the factory defaults.

 for lists selects all, or toggles between select all and select none.

 for lists deselects all.

 closes the open window. If changes were made to settings on the window, they are saved.

Main Screen Elements

Main Screen

The iTrax Operator Interface main screen consists of

- the Main Button Bar, which provides access to system functions.
- an icon definition button, which opens a list of definitions for all icons shown on the main screen.
- faceplates that represent each individual Spray Monitor, Spray Controller, and PRx module added to the iTrax Client.
- details windows for each spray monitor, accessible through the spray monitor faceplates.
- the taskbar.

Click on any of the links above or the areas of the screen below to see more information about the main screen components.

Main Button Bar

Touch the buttons shown below for a description of their functions.

NOTE: These  buttons are only available to users that have the appropriate permissions. Exiting the OI does not affect the operation of the coating system, but while the OI is shut down no data is gathered and stored.

This button is only available if One-Button Recipes are enabled.


When you touch these buttons, a drop-down menu lists the available selections.

If a button or selection is gray, it is not available to you until you log on at the proper security level. Touching a button or drop-down menu selection opens windows that provide access to OI functions.

Button Bar Color

The button bar background is green during normal operation. It changes to **yellow** when a warning occurs and **red** when an alarm occurs.

Taskbar

The taskbar at the bottom of the main window displays the following:

- operator interface hints
- current operator
- current network status
- current date and time

Network status is indicated by the link icon on the taskbar:


The OI and OPC Server are communicating.


The OI has lost communication with the OPC Server.

Icon Definitions

The iTrax Operator Interface uses icons to represent the functions of the system. Many of the icons have text definitions (hints) that appear in the taskbar in the lower left corner of the main screen.

Viewing Operator Interface Hints

How you view the icon hints depends on whether the icon is located on a window background or on a button.

Window Background

To see the hint for an icon on a window background, touch the icon.

Button

If the icon is on a button, touch and hold the button to display the hint. If you do not want to launch the function that the button controls, slide your finger off the button.

Icon Hints

 Touch this button at the top right-hand corner of the active window when you need the definition of an icon. A separate online help system opens. The icon definitions are available in several languages.

Spray Monitor Faceplates

Each Spray Monitor faceplate represents one Spray Monitor and associated spray gun. The faceplates display crucial gun operating parameters so the operator can monitor system operation.

NOTE: The spray animation may be enabled or disabled as needed. Disabling the spray animation allows more faceplates to be displayed, and benefits systems that have a large number of guns. Your Nordson service representative can change the animation to indicate the type of gun connected to the spray monitor through the Nordson Service Settings.

Touch the different areas of the faceplate illustration below to view explanations of faceplate components and functions.

Faceplate with Lacquer Spray Gun Animation

Faceplate with CleanSpray Gun Animation

The fault status bar and the gun information and setup bar are green during normal operation. If warnings and alarms are enabled, they change to yellow when a warning occurs and red when an alarm occurs.

Arranging the Faceplates

You can position faceplates anywhere within the OI main window either by manually arranging or by tiling. If your system includes Spray Controllers and PRx modules, their faceplates will appear below the associated spray monitor faceplate.

Manually Arranging

To manually arrange faceplates, touch the faceplate label bar (faceplate name) and drag the faceplate to the desired location.

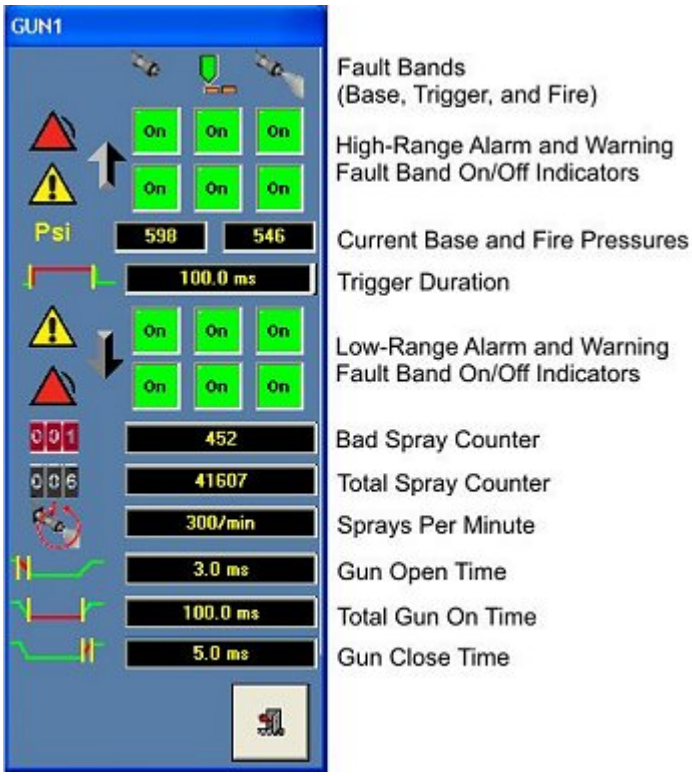
Tile Faceplates

Touch  then 

This automatically tiles the faceplates. The faceplates are arranged from the upper left corner of the main window.

Spray Monitor Details Window

Open this window by touching the green **Information and Setup** drop-down menu on the Spray Monitor faceplate and selecting **Details**. Each **Details** window displays information about spray gun operation not shown on the spray monitor faceplate.



Large Read Out Window

Double-click on an actual value on a module faceplate to open a Large Read Out window. These windows can be used by the operator to monitor actual values at a distance from the display.

Spray Controller Faceplates

Each spray controller faceplate represents one spray controller and the spray gun it is associated with.

Touch the named components of the faceplate illustration below to view detailed explanations of their functions.

The fault status bar and the information and setup bar are green during normal operation. They change to yellow when a warning occurs and red when an alarm occurs.

Arranging the Faceplates

You can position faceplates anywhere within the OI main window either by manually arranging or by tiling. If your system includes Spray Controllers and PRx modules, their faceplates will appear below the associated spray monitor faceplate.

Manually Arranging

To manually arrange faceplates, touch the faceplate label bar and drag the faceplate to the desired location.

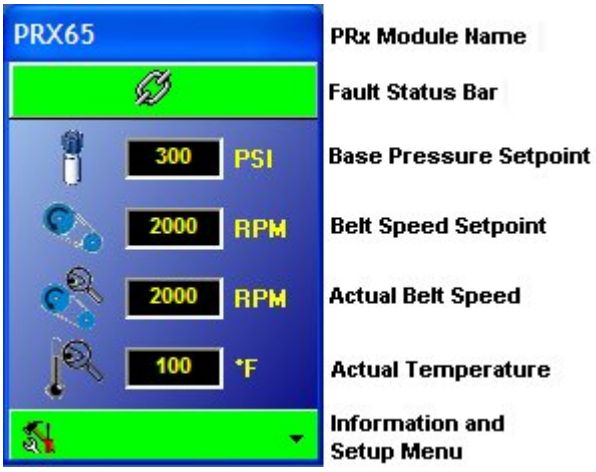
Tile Faceplates

Touch  then  . This automatically tiles the faceplates. The faceplates are arranged from the upper left corner of the main window.

PRx Faceplates

Each PRx faceplate represents one PRx module.

A PRx faceplate is shown below. Touch the different areas of the faceplate to view explanations of faceplate components and functions.



The fault status bar and the information and setup bar are green during normal operation. They change to yellow when a warning occurs and red when an alarm occurs.

Arranging the Faceplates

You can position faceplates anywhere within the OI main window either by manually arranging or by tiling. If your system includes Spray Controllers and PRx modules, their faceplates will appear below the associated spray monitor faceplate.

Manually Arranging

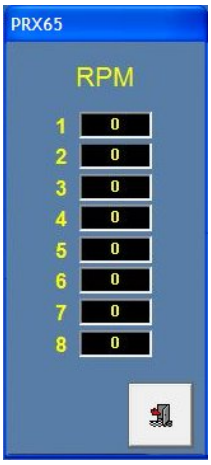
To manually arrange faceplates, touch the faceplate label bar and drag the faceplate to the desired location.

Tile Faceplates

Touch  then  . This automatically tiles the faceplates. The faceplates are arranged from the upper left corner of the main window.

PRx Speed Details

When the Can Chuck Speed Monitoring Feature has been set up by your Nordson Service representative, clicking on the **Information and Setup** drop-down menu on the PRx faceplate and selecting **Speed Details** will display the Speed Details screen.



Depending on the configuration, this window will either show the speed of the current chuck, or the last speed measured of all the chucks on the turret.

Security System

About the Security System

The iTrax Operator Interface has a password-protected security system that allows each user to have access to different functions. The **Administrator** is a built-in user that has access to all functions except the Nordson Service settings. The Administrator sets up the permissions for other users of the OI.

The administrator may also enable or disable the security system. Disabling the security system gives all users access to all functions.

CAUTION: The default password for the **Administrator** is **admin**. It is recommended that you change this default password and keep the new password in a secure location. If you forget the **Administrator** password, contact your Nordson representative to reset it.

The security system is permission-based, meaning that when a user is added, he or she is given permission to change specific settings in the OI. For example, User A may be permitted to make changes to all settings, calibrate guns and reset faults, while User B may only be able to calibrate guns and reset faults.

NOTE: Even if you want all users to have access to all OI settings, it is recommended that you enable the security system to prevent accidental changes to the OI. All users may see all of the settings, but the settings may be changed only by users that have the appropriate permissions given to them.

About User Permissions

Permissions are assigned to each user to give specific control or limit access to various functions of the Operator Interface. The **Set User Permissions** window gives a short description of each permission.

NOTE: When a function is checked, the user has access to that function. If you uncheck a function, the user will not be able to view or change the values associated with that function. Checking or unchecking a category name checks or unchecks all the functions in that category.

Touch a permission on the **Set User Permissions** screen shown below for a detailed description and snapshots of the screens that are affected by the specific permissions. Touch the screen again to make the description disappear.

- [x] Exit Operator Interface
- [x] Allow access to internet
- [x] Switch to Data Logger
- [x] OneButtonRecipeSetup
- [x] OneButtonRecipeDownload
- [x] Clear Module faults
- [x] Change system settings
  - [x] Calibrate Multiple Spray Monitors simultaneously
  - [x] Change Module Faceplate Groups
  - [x] Setup OPC connection
  - [x] Change language
  - [x] Change security setup
    - [x] Add/remove users
    - [x] Change user settings
    - [x] Copy/restore password file
    - [x] Enable/Disable Security
- [x] Change Spray Monitor settings
  - [x] Reset Spray Counts
  - [x] Change Module fault bands
  - [x] Enable/Disable fault detection
  - [x] Change Module Faceplate Name and enable Diagnostics
  - [x] Calibrate Spray Monitors individually
  - [x] Change Module recipe
  - [x] Copy Spray Monitor configuration to other Spray Monitors
- [ ] Show gun on/off timers
- [x] Allow Fire Pressure Setpoint Change (in Continuous Mode)
- [ ] Show Nordson service screen
  - [x] Change Spray Monitor Sample Points %
  - [x] Allow Auto Alarm Reset
  - [x] Allow Failsafe activation
  - [x] Can In Pocket
  - [x] Minimum Spray Duration
  - [x] Bad Spray Counter
- [x] Change Spray Controller Timer Values
- [x] Change Spray Controller CleanSpray Values
- [x] Allow PRx Base Pressure Setpoint Change
- [x] Allow PRx Speed Setpoint Change

Initial Log In

When you first install the iTrax OI, you do not need to log in. The OI is shipped with the security system disabled, which allows you to begin setting up the OI immediately.

CAUTION: The default password for the **Administrator** is **admin**. It is recommended that you change this default password and keep the new password in a secure location. If you forget the **Administrator** password, contact your Nordson representative to reset it.

Logging In

If the security system is enabled, all operators must log in to the OI before they can change any settings.

The icons on the **Log In** button on the main button bar indicate whether or not someone is logged in to the system:

 Security system is enabled; no operator is logged in. Touch the button to log in.

 Security system is enabled; an operator is logged in. Touch the button to log out.

1.  Touch the **Log In** button on the main button bar. The **Operator Login** dialog box appears.

2.  Select your user name from this drop-down menu.
3.  Enter your password in this field.

 Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

4.  Log in, or

 cancel the log in.

 When you have successfully logged in, the Log In button icon changes to show that you are logged in. Your user name appears in the taskbar.

CAUTION: After you have finished making changes, log out of the OI to prevent unauthorized personnel from making unwanted changes to the system.

Logging Out

To log out of the OI:

 This icon on the **Log In** button indicates that someone is logged in, and the user name appears in the taskbar.

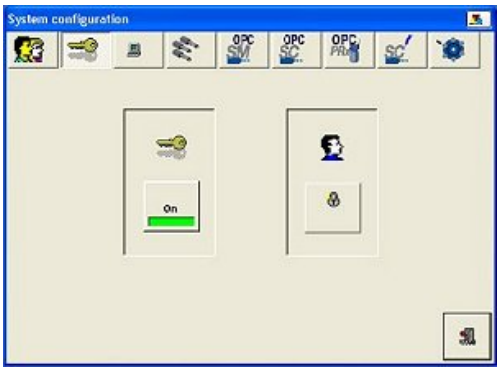
Touch the button to log out.

 The button icon changes and **No Operator** appears in the taskbar. No changes can be made to the system.

Security Setup

Enabling OI security prevents unauthorized users from changing system settings. When OI security is enabled, users must enter a password to access the system. Disabling OI security gives all users permission to access all functions.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Security** button at the top of the **System Configuration** window.



4.  Touch the **On/Off** button below this icon to enable or disable the security system. Refer to the topics under Security System in this Help system for information on setting up users and granting them access permissions.
5.  Touch the **Exit** button to accept the change and close the **System Configuration** window.

Log In/Out Button Status

The Log In/Out button on the Main Button Bar changes in appearance depending on whether a user is logged in or not and whether or not the security system is enabled or disabled:


Security system is enabled; no operator is logged in. Touch to log in.


Security system is enabled; an operator is logged in. Touch to log out.


Security system is disabled. All users have access to all functions.

Setting Automatic Logoff

If the Security System is enabled, you can use Automatic Logoff to log you off the system if you forget to. The Automatic Logoff timer allows you to set the number of minutes from your last action until you are automatically logged off the OI. This function protects the OI settings from being modified by unauthorized users when left unattended by an authorized user.

Setting the **Auto Logoff** setting to zero **disables** the Automatic Logoff function.

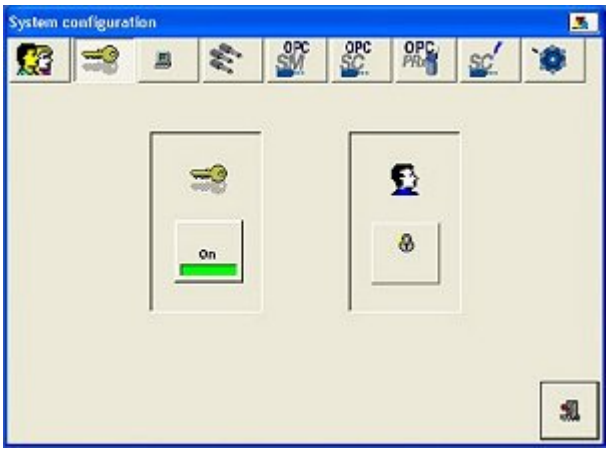
NOTE: To change the automatic logoff setting, you must have permission to change the security system settings.

1. 
Touch this button on the main button bar.
2. 
Select **System Configuration** from the drop-down menu.
3. 
Touch the **Security** button at the top of the **System Configuration** window.
4. 
Touch the **Security Configuration** button. The **Security System** window appears.

5. Drag the slider in the **Auto Logoff** area to increase or decrease the number of minutes. The number in the field above the slider increments as you move the slider. **NOTE:** Setting the value to 0 disables the Auto Logoff feature.

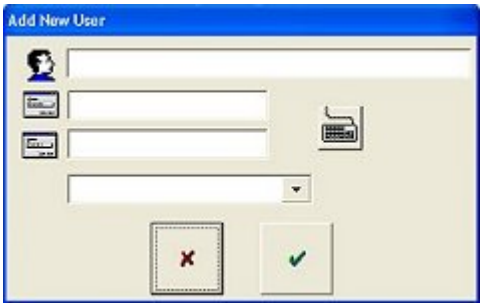
Adding a New User

1.  Touch this button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Security** button at the top of the **System Configuration** window.



4.  Touch the **Security Configuration** button. The **Security System** window appears.

5.  Touch this button. The **Add New User** dialog box appears, showing three blank text fields and the language selection field.



NOTE: The user name and password are not case-sensitive. The maximum number of characters allowed in either the user name or password is 15.

6. Touch this field and enter a user name.

   NOTE: Touch this button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

7. Touch the second field and enter a password.
8. Touch the third field and reenter the password to confirm.
9. Select the appropriate language for the user using the language selection drop-down list.
10. Give the user the appropriate security permissions.

Setting User Language

The OI can display different languages for different users.

NOTE: Performing this procedure sets the default language for a specific user. When the user logs in, the OI automatically switches to the user's language. When the user logs off, the OI automatically switches back to the default system language.

1. Touch the **Tools** button on the main button bar.
2. Select **System Configuration** from the drop-down menu.
3. Touch the **Security** button at the top of the **System Configuration** window.
4. Touch the **Security Configuration** button. The **Security System** window appears.

5. Select the **user** from the drop-down list.
6. Select the desired language for the user from the language drop-down list.

   Default Language:
   English (United States)

NOTE: Touching either of these buttons shows help in multiple languages:

Icon Help, on upper right corner of various windows. Displays definitions of icons in several languages.

Troubleshooting Help, on the **Fault History** window. Displays troubleshooting procedures in several languages.

Setting User Permissions

Different users may be given access to different functions of the OI.

For more information about the permissions, refer to About User Permissions.

1. Touch the **Tools** button on the main button bar
2. Select **System Configuration** from the drop-down menu.
3. Touch the **Security** button at the top of the **System Configuration** window.
4. Touch the **Security Configuration** button. The **Security System** window appears.

5. Select the **user** from the drop-down list.
6. Touch the **Permissions** button. The **Set User Permissions** dialog box appears.
7. Use the check boxes to select the desired permissions for the user.

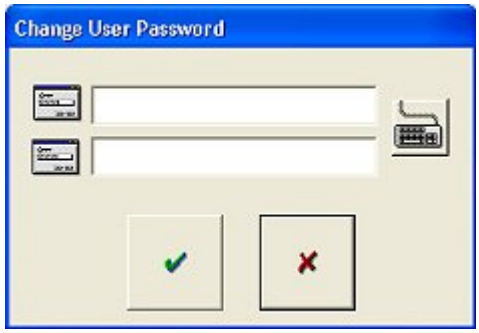
To clear all permissions, touch this button.

To enable all permissions, touch this button.

Changing User Passwords

1. Touch the **Tools** button on the main button bar.
2. Select **System Configuration** from the drop-down menu.
3. Touch the **Security** button at the top of the **System Configuration** window.
4. Touch the **Security Configuration** button. The **Security System** window appears.
5. Select the **user** from the drop-down list.

6. Touch the **Password** button. The **Change User Password** dialog box appears, showing two blank text fields.



Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

7. Enter a new password in the first field (maximum of 15 characters).
8. Reenter the new password in the second field to confirm.

Deleting a User

1. Touch the **Tools** button on the main button bar.
2. Select **System Configuration** from the drop-down menu.
3. Touch the **Security** button at the top of the **System Configuration** window.
4. Touch the **Security Configuration** button. The **Security System** window appears.
5. Select the **user** to delete from the drop-down list.
6. Touch the **Delete User** button to delete the currently selected user. A dialog box appears, asking you to confirm the delete request. Touch **OK** or **Cancel** as appropriate.

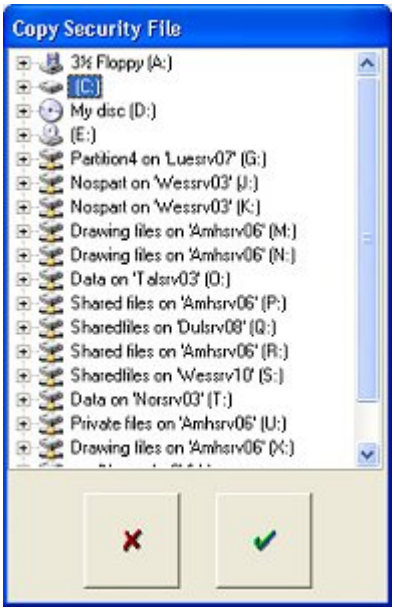
Saving and Restoring User Profiles

The user profiles consist of all security information about each user, including user name, password, language, and permissions. The user profiles can be backed up to an encrypted security file on the computer hard drive or other media.

The security file can then be restored to the OI either when the OI software is updated, or if you want to overwrite the changes you have made to the settings, or you want to transfer security settings from one computer to another.

CAUTION: If you save the security file to a drive or directory where an existing profile file is located, the new file automatically overwrites the old file.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Security** button at the top of the **System Configuration** window.
4.  Touch the **Security Configuration** button. The **Security System** window appears.
5.  Touch the **Copy File** button. The **Copy Security File** dialog box appears, allowing you to select where you would like to save the security file.



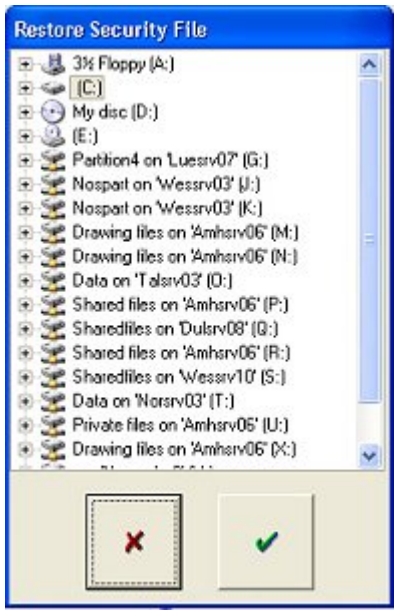
NOTE: The security file name is **ndsnSec.bak**. You may not rename the security file.

6.  Accept or  cancel the save operation.

Restoring User Profiles

CAUTION: When you restore the security file, it automatically overwrites the current security settings.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Security** button at the top of the **System Configuration** window.
4.   Touch the **Security Configuration** button. The **Security System** window appears.
5.  Touch this button. The **Restore Security File** dialog box appears, allowing you to select the location of the security file. The dialog box defaults to the location where you last saved the security file.



NOTE: The security file name is **ndsnSec.bak**. You cannot rename the security file.

6.  Accept or  Cancel the restoration.

Shut down the OI and restart it to complete the restoration of the security file.

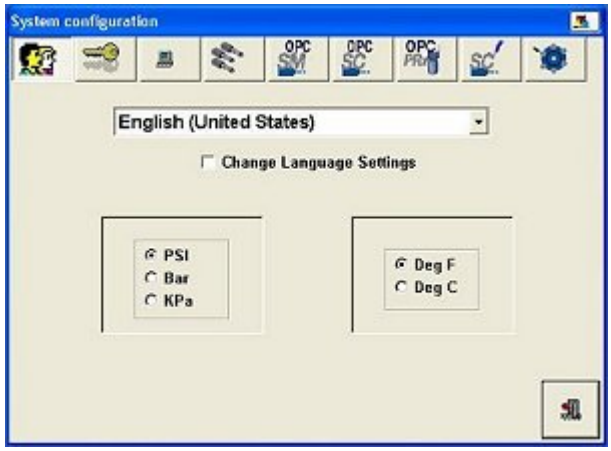
System Configuration

User Settings

User settings allow you to temporarily change the **OI language** and **display units** for the current user. Normally, each user is assigned a default language that is set when the user logs into the security system.

NOTE: When the iTrax system is installed, English is the default language that appears when no one is logged in or the security system is disabled. Your Nordson Service representative can change the default system language.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **User** button at the top of the **System Configuration** window.



4. Select the desired language from the drop-down list.
5. Select **PSI, Bar, or KPa**.
6. Select **Degrees F** (Fahrenheit) or **Degrees C** (Celsius), if your system includes PRx modules.

NOTE: Touching either of these buttons shows help in multiple languages:

 **Icon Help**, on the upper right corner of various windows. Displays definitions of icons in several languages.

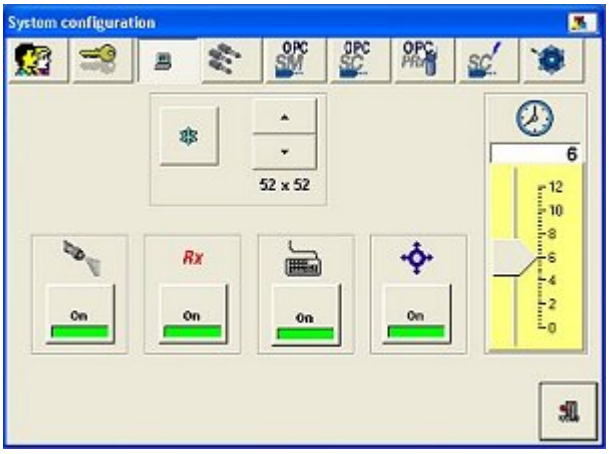
 **Troubleshooting Help**, on the **Fault History** window. Displays troubleshooting procedures in several languages.

Setting OI Button Size

You may adjust the button size as desired:

- If using the touch screen, increase the button size to make it easier to touch the buttons.
- If using a mouse, decrease the button size to give you more free space on the screen.

1.  Touch the **Tools** button on the main button bar. A drop-down menu appears.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch this button at the top of the **System Configuration** window.



4. Use the up and down arrow buttons to increase or decrease the size of the buttons.

 This image changes size as you change the button size. The smallest buttons are 52 x 52, the largest 72 x 72.

Enabling Spray Animation

The spray animation on the Spray Monitor faceplates may be enabled or disabled as needed. Disabling the spray animation allows more faceplates to display on the main screen and benefits systems that have a large number of modules.

Example of a Faceplate without the Spray Animation:

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu. The **System Configuration** window appears.
3.  Touch this button at the top of the **System Configuration** window.
4. 


Touch this button to turn the spray animation **On** or **Off**.

NOTE: The Spray Animation type can be changed to indicate the type of spray gun being monitored by the Spray Monitor. The change is made through the Nordson Service Screen for each Spray Monitor.

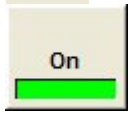
Enabling One-Button Recipes

One-Button Recipes allow you to quickly change production line configurations.

NOTE: When One-Button Recipes are enabled, the **Copy [module name] Recipe** functions on the System Configuration drop-down menu are disabled.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.

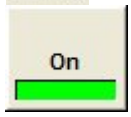
3.  Touch this button at the top of the **System Configuration** window.

4. 


Touch the Recipe toggle button to turn One-Button Recipes on or off.

Enabling the On-Screen Keyboard

You may enable or disable the Windows on-screen keyboard as desired:

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch this button at the top of the **System Configuration** window.
4. 


Touch this button to turn the on-screen keyboard **On** or **Off**.

Setting the History Data Retention Period

The iTrax system maintains spray counter reset, calibration, and fault history logs for each Spray Monitor in the system.

The history data retention period is the maximum time (in months) for which the system saves history data. For example, if the retention period is set to two months, then data older than two months is automatically deleted.

1.  Touch the **Tools** button on the main button bar. A drop-down menu appears.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch this button at the top of the **System Configuration** window.
4.  Move this slider up or down to set the history data retention period. The current period is shown in the field at the top of the slider.

   NOTE: Setting the value to **0** causes the system to maintain all history data indefinitely.

Adding Spray Monitors to the OI

NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

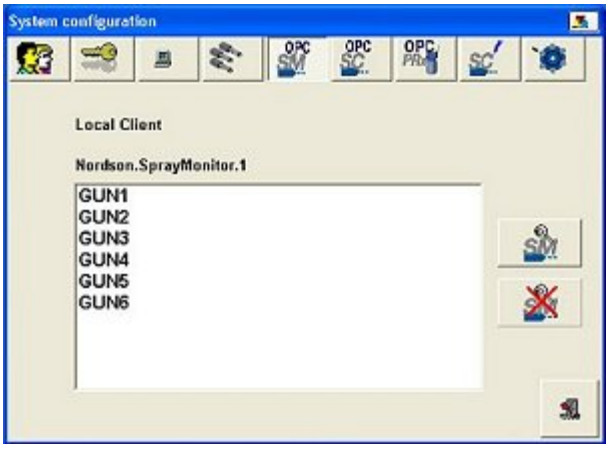
If setting up a new system or adding new Spray Monitors to an existing system, you must add the Spray Monitors to the OI. The OI then creates a faceplate for the Spray Monitor.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **OPC Spray Monitor** button at the top of the **System Configuration** window:

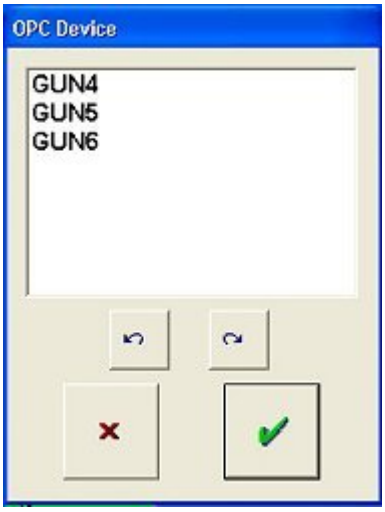
    **OPC Remote Client option:** If you are setting up a Remote Client then the Remote button appears on this window. Touch the Remote button and enter the network name of the computer the OPC Server is installed on. This allows the Remote Client to communicate with the OPC server.

   OPC Local Client: If the words Local Client appear instead on the System Configuration window, then the OI and OPC Server are installed on the same PC and you can start adding spray monitors.

4.  Touch the **Add Spray Monitors** button. The **OPC Device** window appears, listing the Spray Monitors available on the network.



NOTE: The OPC Server always recognizes the Spray Monitors by their default names (GUN1, GUN2, etc.) as defined by their node address switch settings.

5. Touch the names of the Spray Monitors you want to add, or

 **Select all** Monitors.

 **Deselect all selected** Monitors.

6.  Accept the selections, or

 cancel.

The new Spray Monitors appear in the list on the **System Configuration** window, and the new Spray Monitor faceplates appear in the main window. If there are PRx Modules on the iTrax CAN network with the same node address settings as the Spray Monitors, their faceplates also appear.

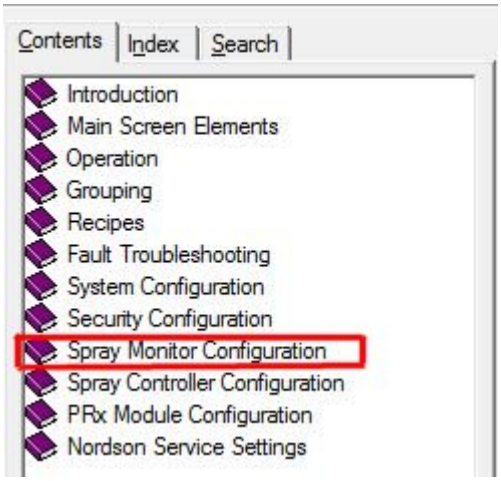
7. Add Spray Controllers and standalone PRx Modules to the OI.
8. Make Service Settings for each Spray Monitor.

Spray Monitor Service Settings

NOTE: These settings can only be made by a Nordson Service Representative or an administrator who has been given access permission to these settings.

- Trigger Polarity
- Trigger Mode
- Sampling
- Spray Output Polarity
- Can In Pocket

- Can In Pocket Polarity
- Alarm Reset Mode
- Failsafe
- Transducer Type
- Trigger LED Function
- Minimum Spray Output
- Smoothing
- Sample Point
- Electrical Noise Warning
- Duration Too Short Warning
- Cycle Rate Too Fast Alarm
- Animation Type

9. Configure the Spray Monitors 

before beginning production.
10. Create Spray Machines if you use One-Button Recipes.

Removing Spray Monitors from the OI

Removing a Spray Monitor from the spray system does not automatically remove it from the OI. Follow these steps to remove a spray monitor from the OI.

1.  Touch the **Tools** button on the main button bar. A drop-down menu appears.
2.  Select **System Configuration** from the drop-down menu. The **System Configuration** window appears.
3.  Touch this button at the top of the **System Configuration** window.

4. Touch the names of the Spray Monitors you want to remove, or

    **Select all** monitors.

    **Deselect all selected** monitors.

5.  Touch this button to remove the Spray Monitor from the OI. A dialog box appears, asking you to confirm the action.

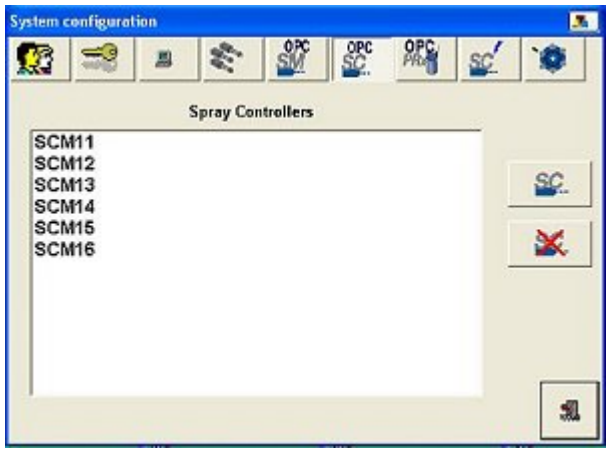
   The Monitor faceplate no longer appears in the main window.

Adding Spray Controllers to the OI

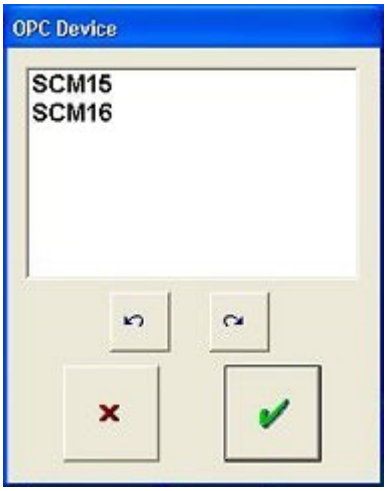
NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

If setting up a new system or adding new Spray Controllers to an existing system, you must add the Spray Controllers to the OI. The OI then creates a faceplate for the Spray Controller.

1.  Touch the **Tools** button on the main screen button bar.
2.  Choose **System Configuration** on the drop-down menu.
3.  Touch the **OPC Spray Controller** button. The **System Configuration** window changes to show the Spray Controller list and OPC function buttons.



4.  Touch the **Add Spray Controller** button. The **OPC Device** window opens, listing the Spray Controllers on the network that have not already been added to the OI.



NOTE: The OPC Server always recognizes the Spray Controllers by their default names (SCM11, SCM12, etc.).

5. Touch the names of the Spray Controllers you want to add, or

    **Select all** Controllers.

    **Deselect all selected** Controllers.

6.  Accept the selections, or  cancel.
   The Spray Controller faceplates appear on the main screen.
7. Connect the Spray Controllers to the Spray Monitors in the system.
8. Create Spray Machines if you are going to use One-Button Recipes.
9. Make Service Settings for each Spray Controller.

Spray Controller Service Settings

NOTE: These settings can only be made by a Nordson Service Representative or an administrator who has been given access permission to these settings.

Lacquer Gun:

- Driver
- Can Sense Switch Polarity
- Index Switch Polarity
- Manual Wash Switch Polarity
- Inhibit Switch Polarity
- Active Out Polarity
- Run/Stop Input Polarity
- Driver Config Lockout

CleanSpray Gun:

- Enable
- Spray Frequency
- Tank Switch Polarity
- Manual Wash Switch Polarity
- Auxiliary CIP Proximity Switch Polarity

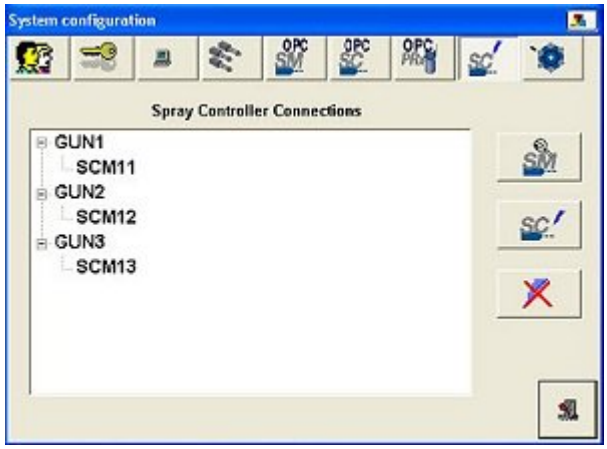
10. Configure the Spray Controllers before beginning production.

Connecting Spray Controllers to Spray Monitors

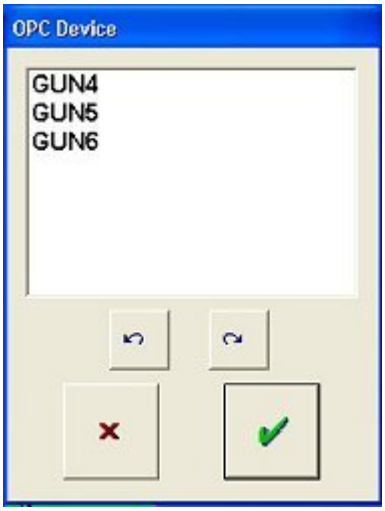
NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

If your system has both Spray Controllers and Spray Monitors, you must connect the Spray Controllers to the Spray Monitors so that the Spray Monitors can properly monitor system performance.

1. Touch the **Tools** button on the main screen button bar.
2. Choose **System Configuration** on the drop-down menu.
3. Add the Spray Monitors to the OI.
4. Add the Spray Controllers to the OI.
5. Touch the **Spray Controller Connections** button. The System Configuration window changes to display the connection functions. Existing connections appear in the Spray Controller Connections list.



6. Touch the **Spray Monitor** button to open the **OPC Device** window. Touch the names of the Spray Monitors you want to add to the connections list, or

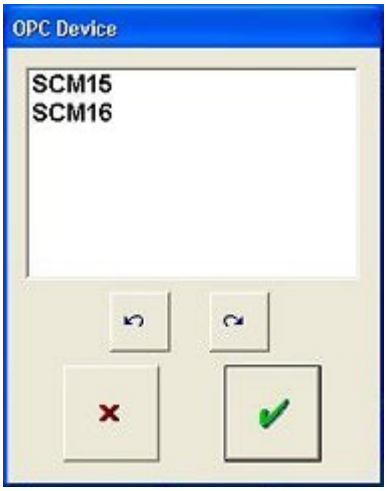


 **Select all** Monitors.

 **Deselect all selected** Monitors.

The selected Spray Monitors appear on the Spray Controller Connections list.

7. Select a Spray Monitor on the Spray Controller Connections list.
8.  Touch the **Spray Controller Connect** button, and select a Spray Controller to associate to the selected Spray Monitor from the **OPC Device** list.



NOTE: You can only select one Spray Controller per Spray Monitor.

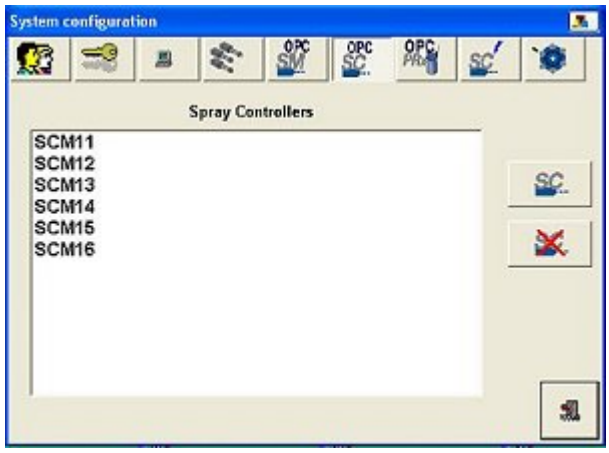
9.  Touch the **OK** button to accept your choice and close the window.

The Spray Controller appears on the **Spray Controller Connections** list, indented to the Spray Monitor to indicate the connection.

Removing Spray Controllers from the OI

Removing a Spray Controller from the spray system does not automatically remove it from the OI. Follow these steps to remove a spray controller from the OI.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **OPC Spray Controller** button at the top of the **System Configuration** window.



4. Touch the names of the Spray Controllers you want to remove, or

    **Select all** Controllers.

    **Deselect all selected** Controllers.

5.  Touch this button to remove the selected Controller from the OI. A dialog box appears, asking you to confirm.

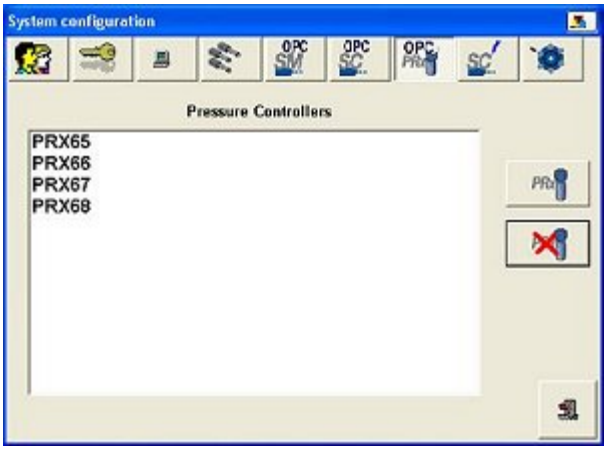
The Controller faceplate no longer appears in the main window.

Adding PRx Modules to the OI

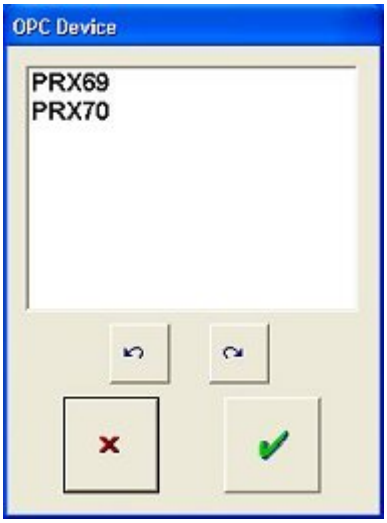
NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

This function is normally used only to add PRx Modules to the OI that are not associated with a Spray Monitor by the node address switch setting. To associate a PRx Module with a Spray Monitor, the PRx Module address switch must be set to the same address as the Spray Monitor.

1.  Touch the **Tools** button on the main screen button bar.
2.  Choose **System Configuration** on the drop-down menu.
3.  Touch the **OPC PRx** button. The **System Configuration** window changes to show the PRx Module list and OPC function buttons.



4.  Touch the **Add PRx Module** button. The **OPC Device** window opens, listing any PRx Modules on the network that have not already been added to the OI.



NOTE: The OPC Server always recognizes the PRx Modules by their default names (PRX65, PRX66, etc.). The PRX number is the module address switch setting plus 64.

5. Touch the names of the Modules you want to add, or

    **Select all** Modules.

    **Deselect all selected** Modules.

6.  Accept the selections, or  cancel.
   The PRx Module faceplates appear on the main screen.
7. Make Service Settings for each PRx Module.

   PRx Module Service Settings

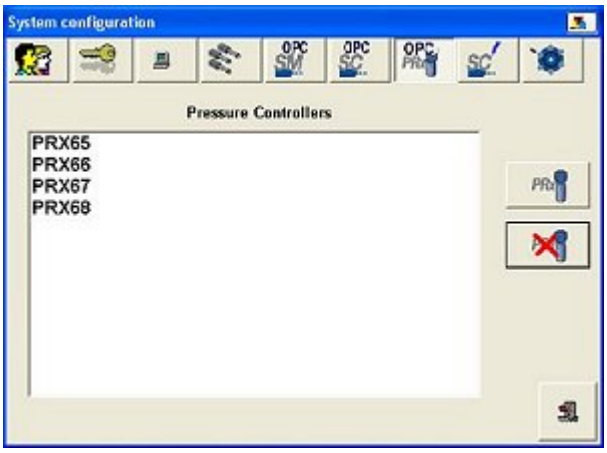
   NOTE: These settings can only be made by a Nordson Service Representative or an administrator who has been given access permission to these settings.

   - Pressure Control
   - Temperature Monitor
   - Belt Speed Monitor
   - Belt Speed Control
   - Device Network
   - Run/Stop Input
   - XCIP Output
   - XCIP Inputs:
     Vacuum Chuck Detect
     Gun Mount Position
     CIP Proximity Switch
     Belt Spin Detect
8. Create Spray Machines if you are going to use One-Button Recipes.
9. Configure the PRx Modules before beginning production.

Removing PRx Modules from the OI

NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

1.  Touch the **Tools** button on the main screen button bar.
2.  Choose **System Configuration** on the drop-down menu.
3.  Touch the **OPC PRx** button. The **System Configuration** window changes to show the PRx Module list.



4. Touch the names of the PRx Modules you want to remove, or

    **Select all** Modules.

    **Deselect all selected** Modules.

5.  Touch the **Delete Module** button to remove the selected Module from the OI. A dialog box appears, asking you to confirm.

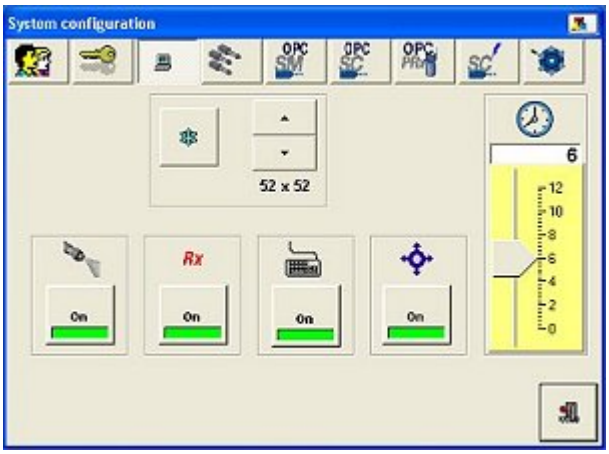
   The Module faceplate no longer appears in the main window.

Enabling Automatic Associations

You can use the Automatic Associations function to create spray machines quickly without having to remember which Spray Controllers and PRx Modules are associated with which Spray Monitors. When it is turned on, the list of available modules to add to a spray machine is limited to Spray Monitors only. When a Spray Monitor is added to the spray machine the associated modules are also added.

To turn Automatic Associations on:

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch this button at the top of the **System Configuration** window.



4. 

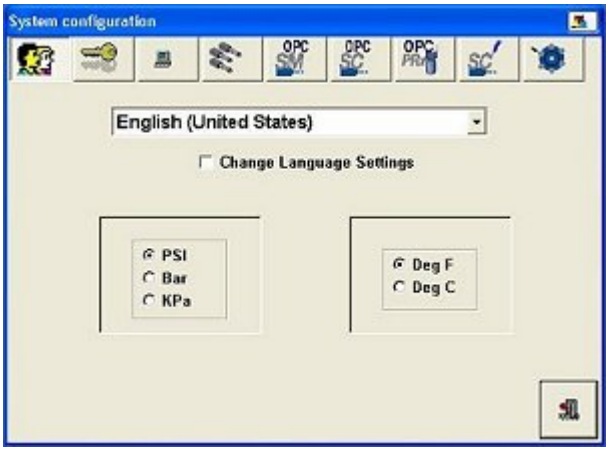

Touch this button to turn Automatic Associations on or off.

Creating Spray Machines

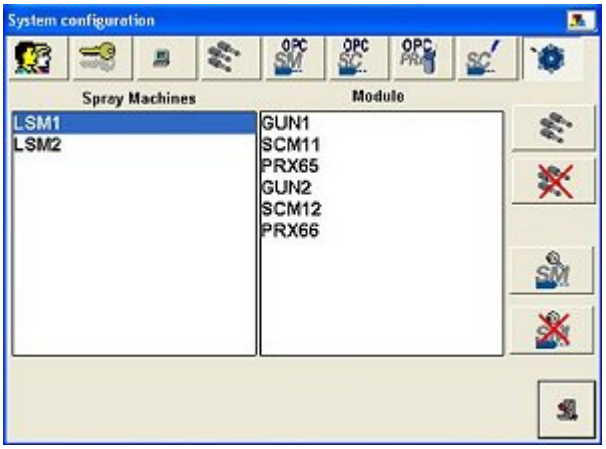
Spray Machines are used to create One-Button Recipes. Spray machines are groups of modules typically related to each other by function and location.

NOTE: If your spray machines will not include any standalone modules, such as Spray Controllers or PRx Modules not associated with Spray Monitors, turn on Automatic Associations before creating the spray machines.

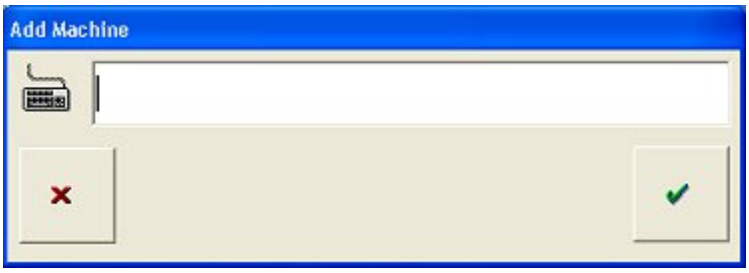
1.  Touch the **Tools** button on the main screen button bar.
2.  Choose **System Configuration** on the drop-down menu. The **System Configuration** window appears.



3.  Touch this button to switch the window to the Spray Machines setup.



4.  Touch this button to **Add a Spray Machine** and enter the desired Spray Machine name.

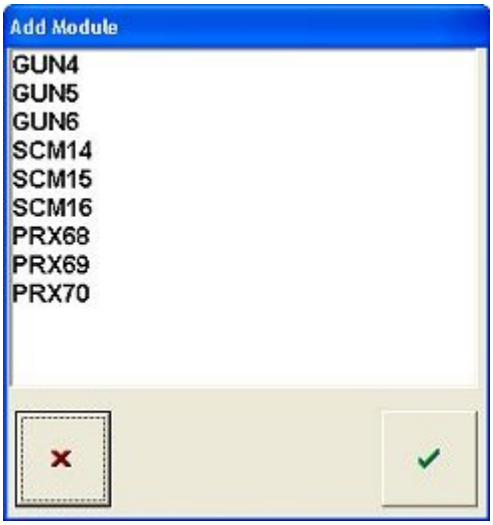


 Touch the **Keyboard** button to open the Windows keyboard if needed. To close the keyboard, touch the **X** button at the top right corner of the keyboard.

The Spray Machine name appears in the Spray Machines list.

5. Select the name of the Spray Machine you just created.

6.  Touch this button to **Add Modules** to the Spray Machine.



7. Select the desired modules to add to the spray machine. The selected modules appear in the Modules list on the Spray Machines window.

   NOTE: If Automatic Associations is turned on, selecting one or more Spray Monitors automatically adds the associated Spray Controllers and PRx Modules to the list.

Spray Monitor Configuration

About Spray Monitors

One Spray Monitor module is used for each MEG or A20A and CleanSpray gun combination. The Spray Monitors receive pressure and trigger signals that allow the iTrax OI to monitor spray gun and fluid system performance and detect conditions that could result in quality problems and rejects.

Each Spray Monitor also has a series of LEDs on its face that provide indications of its operation.

Before you can configure the Spray Monitors, they must be added to the OI.

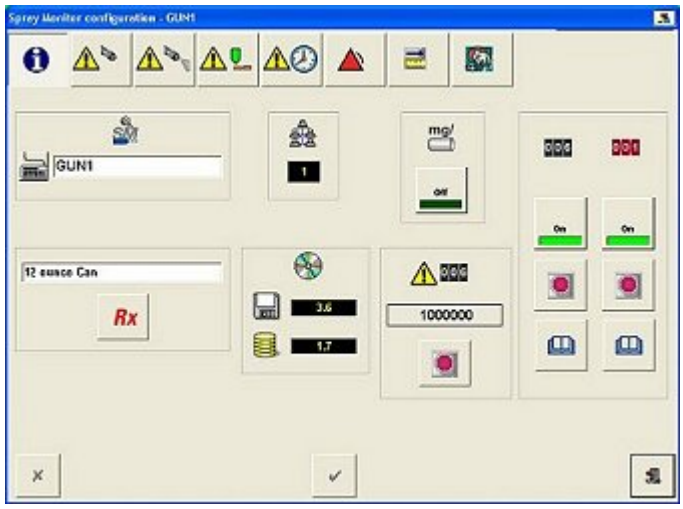
NOTE: Some Spray Monitor configuration settings can only be made by a Nordson service representative. Contact your Nordson representative if these settings must be changed.

Naming Spray Monitors

Spray Monitor names appear at the top of the Spray Monitor faceplates. Give each Monitor a unique name (typically the same name as the spray gun it is monitoring) to avoid confusion.

NOTE: The Spray Monitor name only appears in the OI. The OPC Server and OPC Data Logger always recognize the Monitors by their default names (GUN1, GUN2, etc.) as defined by the Spray Monitor node address switch settings.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Information** button at the top of the **Spray Monitor Configuration** window.



4.  Enter a unique name in the field below this icon. The name can have a maximum of 15 characters.

 Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

5.  Touch the **OK** button to save the name change.

Spray Counter Setup

The spray counters maintain a running count of spray gun triggers (sprays).

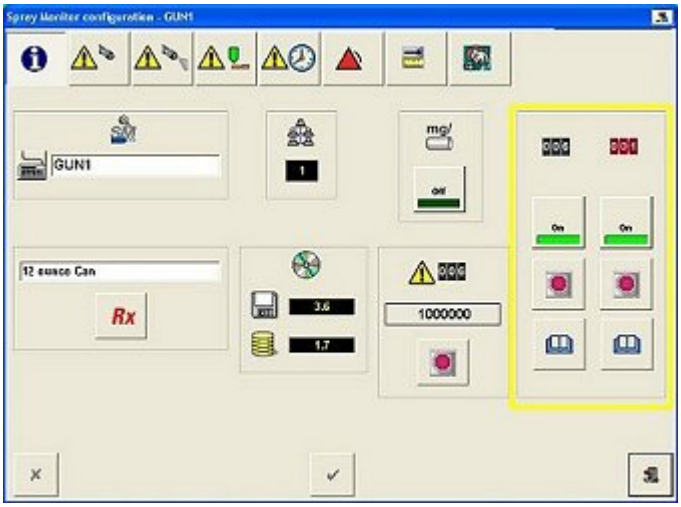
Two spray counters are available:

Total Spray Counter: Counts all sprays, both good and bad. The Total Spray Counter is based on the timer signal. When enabled, it appears on the details window and faceplate. If disabled, it still appears on the details window.

Bad Spray Counter: Increments each time the gun sprays while an alarm condition exists. It is based on alarm occurrences. Appears only on the details window, only when enabled.

NOTE: If your system uses the new Spray Monitor module, part 1065268, the total spray and bad spray counters are automatically saved in the Spray Monitor non-volatile memory. If power to the Spray Monitor is turned off, the counter data is saved. If your system uses the old-style Spray Monitor modules, part 1042409, the spray counters are automatically reset to zero when the spray monitor is turned off.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Information** button at the top of the **Spray Monitor Configuration** window.



4. Use the following buttons below the spray counter icons to change the settings of the spray counters:

Toggles the spray counter On or Off.

 Resets the spray counter to zero. The reset is recorded in the counter reset history.

 Opens the Spray Counter Reset History window, listing the spray count at reset, date and time of reset, and who reset the counter. The spray counter reset history can be printed.

NOTE: You can also set a spray counter warning. The warning appears when the total spray count reaches the warning setting.

Setting Spray Counter Warning

The spray counter warning alerts the operator when the total spray counter reaches the warning setting. This function is typically used to schedule routine maintenance on the spray gun or other system components.

The spray counter warning is set from the Spray Monitor Configuration screen.

For the warning to function, it must be enabled.

NOTE: If your system uses the new Spray Monitor module, part 1065268, the total spray and bad spray counters are automatically saved in the Spray Monitor's nonvolatile memory. If power to the Spray Monitor is turned off, the counter data is saved. If your system uses the old-style Spray Monitor modules, part 1042409, the spray counters are automatically reset to zero when the spray monitor is turned off.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Information** button at the top of the window.
4.  Touch this button below the spray counter warning icon  . The counter setting screen appears.

5. Use the numeric keypad to enter the desired count in the bottom field. The top field displays the previous setting.

6.  Accept the setting, or  cancel the setting.
7. To use the warning, go to the Fault screen and enable it.

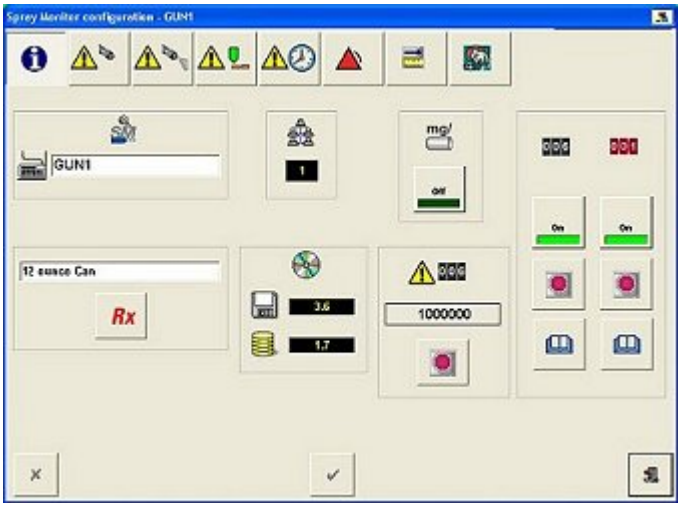
Mg Weight Setup - Single Module

NOTE: This function monitors the coating weight applied to cans using a software algorithm and the calibration data. It should be used for reference only, and can only be used on one gun systems.

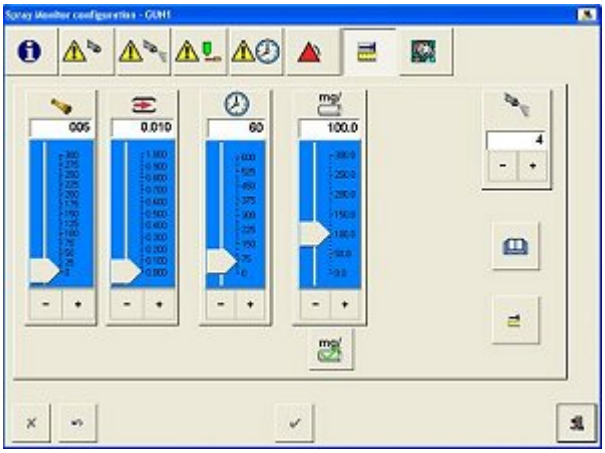
When a MEG spray gun is used, the actual milligram (mg) weight displayed is typically accurate to +/- 1 mg at +/- 20 psi base pressure. If the base pressure increases or decreases more than 20 psi, then the Spray Monitor must be recalibrated. Other coating system variables may also affect the accuracy of this function.

Follow these steps to enable and configure mg weight monitoring for a single Spray Monitor:

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Information** button at the top of the **Spray Monitor Configuration** window.



4.   Touch the **Mg Weight** button to toggle Mg Weight Monitoring on or off.
5.  Touch the **Calibration** button at the top of the **Spray Monitor Configuration** window.



6. Check the calibration settings, then touch the  **Calibrate** button to run a calibration. A question mark ? appears in the actual weight field when the calibration is complete.
7. Weigh the cans coated during the calibration and calculate the average weight of the coatings applied to each can. This weight is the **Target Weight**.
8.  Enter the target weight on the Calibration screen using the mg weight slider.

    Touch this button to accept the target weight without saving it as part of the current recipe or,

    Touch the **OK** button to save the target weight as part of the current recipe.

During coating system operation, the actual weight displayed is calculated by comparing the actual pressure and gun performance data with the calibration data. The target weight is displayed on the spray monitor faceplate along with the calculated actual weight.

The actual weight displayed should be used for reference only, as an indicator of system performance.

Mg Weight Setup - Multiple Modules

NOTE: This function monitors the coating weight applied to cans using a software algorithm and the calibration data. It should be used for reference only.

This function can be used for Spray Machines that include more than one Spray Monitor. When a MEG spray gun is used, the actual milligram (mg) weight displayed is typically accurate to +/- 1 mg at +/- 20 psi base pressure. If the base pressure increases or decreases more than 20 psi, then the Spray Monitor must be recalibrated. Other coating system variables may also affect the accuracy of this function.

Follow these steps to enable and configure mg weight monitoring for multiple Spray Monitors:

1.  Touch the **System Configuration** button on the main window button bar to open the system dropdown menu.

2.  Touch **Calibrate Multiple Spray Monitor Guns** and calibrate the Spray Monitors for which you want to monitor mg weight. Weigh the cans coated during the calibration procedure and calculate the average weight applied. If the applied weight is not satisfactory, adjust your system to obtain the desired coating weight and calibrate again.

3.  Select **Setup mg** from the system dropdown menu. The **mg weight dialog** opens.

4. Select the spray machine with the Spray Monitors you calibrated from the top dropdown.
5. Select the Spray Monitors that you want to monitor mg weight, then

 Touch this button to enter the desired mg weight. A numerical keypad opens. Enter the target mg weight (weight you calculated after calibration), or

 Touch this button if you had already entered a weight and the actual weight displayed is acceptable.

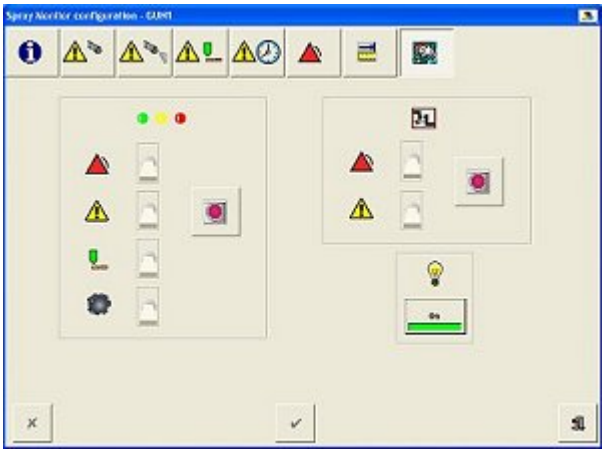
Testing Spray Monitor LEDs and Relays

The Spray Monitor module LEDs and relays default to normally off (relays open). During normal operation, the LEDs remain off and the relays remain open (unless the failsafe mode has been changed to closed) during normal operation. When a fault occurs, the appropriate LED lights and the appropriate relay closes. The LED and relay affected return to their normal state when the fault is resolved.

Use this procedure to toggle the LEDs and relays to make sure they are functioning.

CAUTION: Shut off the coating system before testing the Spray Monitor relays. Testing the relays with the coating system operating will generate an alarm and shut down the system.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Diagnostics** button at the top of the **Spray Monitor Configuration** window.



NOTE: To prevent an operator from accidentally tripping the relays and shutting down the coating system, you must turn on the diagnostics mode before you can use it.

4.  Touch the **Test Mode** button toggle it On. The switch backgrounds change from gray to green and the switches move if necessary to show the current operating state of the LEDs and relays. The Spray Monitor is now in diagnostics mode.

 LEDs

Spray Monitor LEDs

 Alarm

 Warning

 Trigger

 Can-In-Pocket

 Relays

Spray Monitor Relay Contacts

 Alarm

 Warning

5. Touch the switches as necessary to set the LEDs and/or relays to the desired state. The actual LEDs and relays on the spray monitor will not change until you perform step 5.

   Switch Status

    **De-energized**  **Energized**

6.  Touch the test buttons to test the LEDs or relays. To return the LEDs and relays to their actual operating state, touch the button again.

Copying Spray Monitor Configuration Settings

To make Spray Monitor configuration faster and easier, you can set up one Spray Monitor (the source) and then copy its configuration settings (its recipe) to other Monitors (the destinations).

NOTE: This function is enabled only when One-Button Recipes are disabled.

1.  Touch the information and setup bar on the source Spray Monitor faceplate.
2.  Select **Copy Spray Monitor Configuration** from the drop-down menu. The **Copy Spray Monitor Configuration** dialog box appears.

4. The top field is a drop-down list of Spray Monitor groups. Select the group in which the destination monitors belong, or select ALL to list all Spray Monitors.

   NOTE: The name of the Spray Monitor you are copying from (the source) appears in the middle field (with a black background). The lower field lists the Spray Monitors in the group you selected, or if you selected ALL, all Spray Monitors.

5. Select the Spray Monitors to which you want to copy the configuration settings:
   - To select individual spray monitors, touch their names. When selected they are reverse highlighted (white letters on a dark blue background).
   - To deselect a monitor, touch its name again.
   - To select or unselect all monitors in the list, touch the  button.
6. If the destination Spray Monitors have the same transducer, CO-plate, nozzle flow rate, and calibration spray count as the source Spray Monitor, check the **Copy Calibration Configuration** box.

   NOTE: If you check the **Copy Calibration Configuration** box, you may have to calibrate the destination Spray Monitors.

7.  Touch the **Group** button. The settings are copied to the selected Spray Monitors.

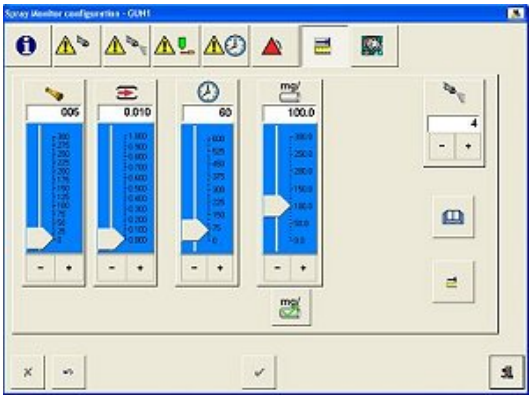
Calibration Settings

Entering Nozzle and CO-Plate Designators

The iTrax Spray Monitors use the nozzle flow rate and CO-plate specifications to calculate the expected pressure drop at the transducer when the lacquer gun sprays. Nozzle flow rate is shown as gallons per minute based on water at 500 psi and ambient temperature.

NOTE: If you change the nozzle or CO-plate, you must enter the new nozzle flow rate or CO-plate designators into the OI and calibrate the gun.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Calibration** button at the top of the **Spray Monitor Configuration window**.



4. Drag the slider or touch the **–** and **+** buttons to set the CO-plate and nozzle flow rate designators.

    CO-Plate (this number is stamped on the CO-Plate)

    Nozzle Flow Rate (this number is stamped on the nozzle)

5.  Touch this button to accept your settings.

6.  Touch this button to calibrate the gun.

Setting Calibration Spray Count

During a calibration, the gun sprays several times and the Spray Monitor uses the average base and fire pressures to set the calibrated base, fire, and delta pressure settings. The Calibration Spray Count is the number of times the gun sprays during a calibration.

Default Setting: 4

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.

2.  Select **Spray Monitor Configuration** from the drop-down menu. The **Spray Monitor Configuration** window appears.

3.  Touch the **Calibration** button at the top of the **Spray Monitor Configuration** window.

4.  Touch the **–** and **+** buttons to adjust the calibration spray count. The spray count can be 2, 4, 8, or 16.

Calibration Timeout Period

The OI disables fault monitoring while it is running a calibration. The calibration timeout period is the number of seconds you have to run a calibration before the OI automatically cancels the calibration and re-enables fault monitoring. If the timeout period expires, you must restart the calibration.

Default Setting: 60 seconds

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.

2.  Select **Spray Monitor Configuration** from the drop-down menu.

3.  Touch the **Calibration** button at the top of the **Spray Monitor Configuration** window.

4.  Drag the slider or touch the **–** and **+** buttons to adjust the calibration timeout period.

Fault Setup

About Spray Monitor Fault Ranges

The iTrax Operator Interface allows you to adjust the ranges in which the Spray Monitor generates faults.

The following graph illustrates how the adjustable fault ranges function. Touch the red, yellow, and green bands to learn more about the fault ranges.

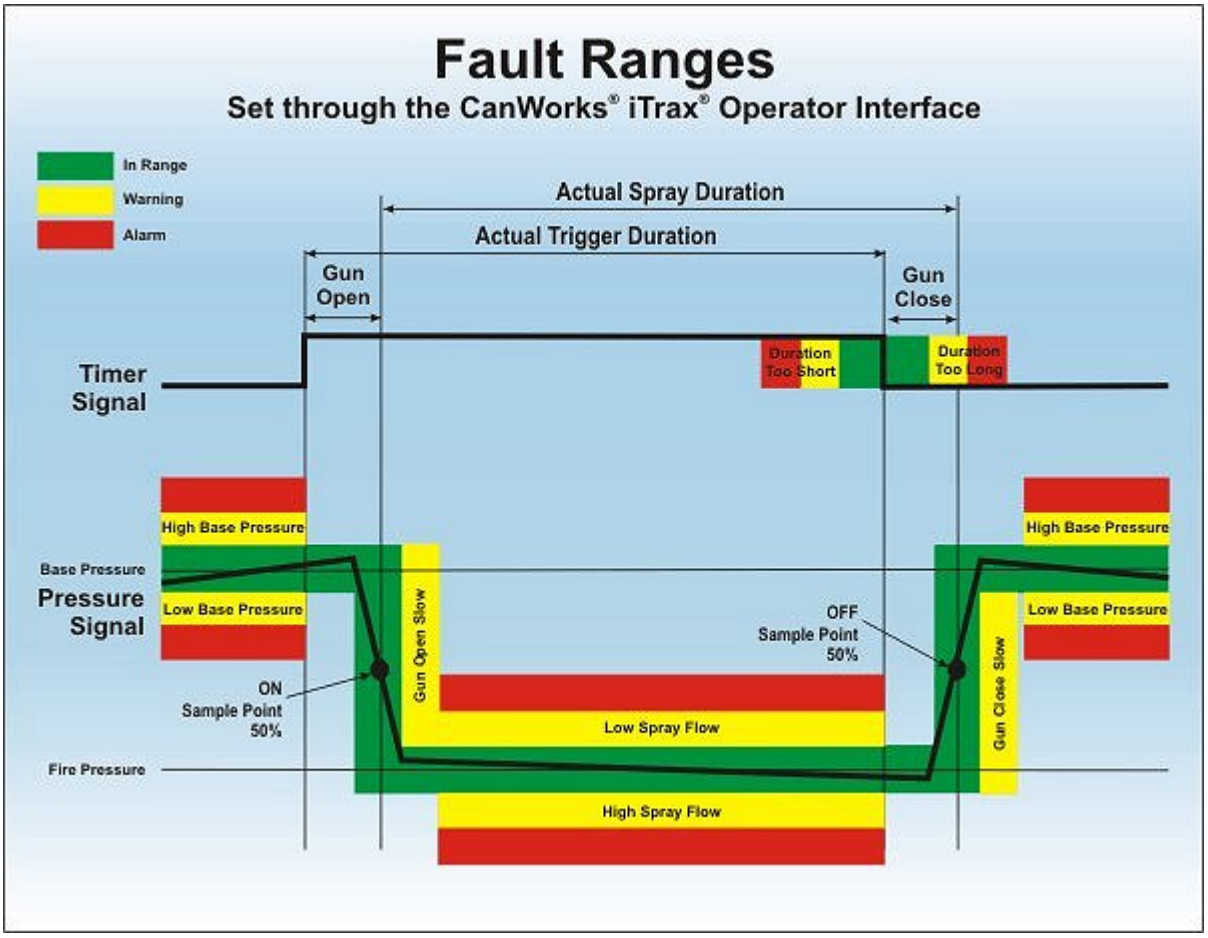
Legend

— Thick, black lines illustrate the signals from the timer and pressure transducer.

Green bands indicate normal, in range operation.

Yellow bands indicate warning ranges.

Red bands indicate alarm ranges.

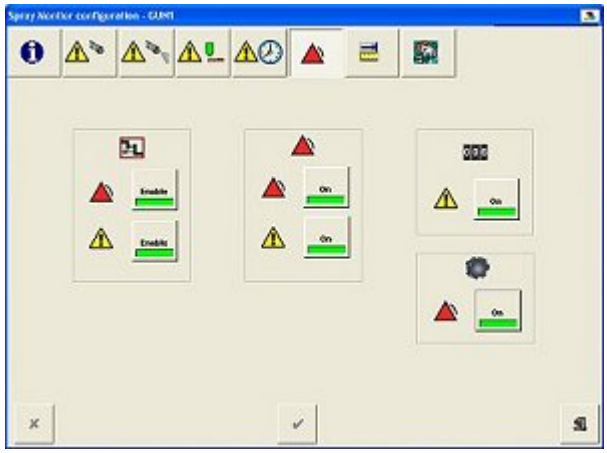


Enabling Faults

You can turn on or off (enable or disable) fault warnings and alarms as needed. When warning and alarm faults are enabled for a Spray Monitor, warning and alarm icons appear in the fault bar on the Spray Monitor faceplate.

CAUTION: If faults are disabled, the OI will provide no indication of a warning or alarm condition if one occurs.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  S elect **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Faults** button at the top of the **Spray Monitor Configuration** window.



4. Touch the **On/Off** buttons to change enable and disable the warnings and alarms as desired.

Alarms

Warnings

Enabling Spray Monitor Fault Relays

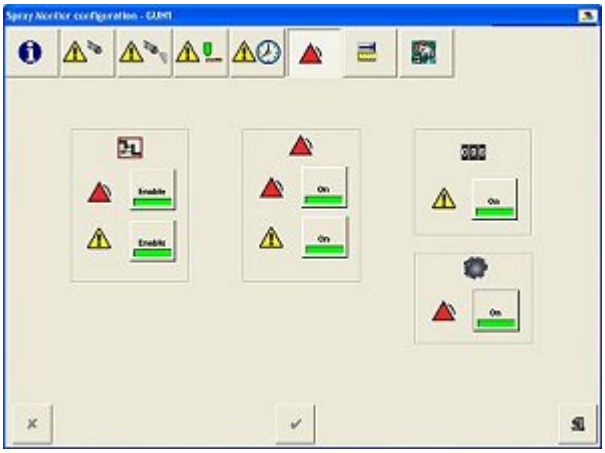
iTRAX Spray Monitors have alarm and warning relays that can be enabled or disabled as needed. These relays can be connected to a customer device such as a light tower or parent machine PLC. They can be used to alert the operator if a spray system fault occurs or to shut down the line to prevent rejects.

The default relay setting (Nordson Service Setting) is normally open; the relays de-energize and close when a warning or alarm occurs.

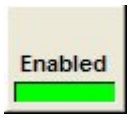
Faults must be enabled for the relays to function.

NOTE: If the relays are disabled, only the warning or alarm indicators on the OI and the LEDs on the Spray Monitors will alert the operator to a fault.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu
3.  Touch the **Faults** button at the top of the **Spray Monitor Configuration** window.



4. Touch the **Enabled/Disabled** buttons to enable or disable the warning and alarm relays as desired.



Alarm Relay

Warning Relay

Setting Base Pressure Fault Ranges

Base pressure is the fluid pressure at the spray gun when it is not spraying. The base pressure fault settings allow you to set points at which an alarm or warning occurs when the base pressure goes above or below the calibrated base pressure. Depending on your application, you may enable or disable any combination of these warnings and alarms.

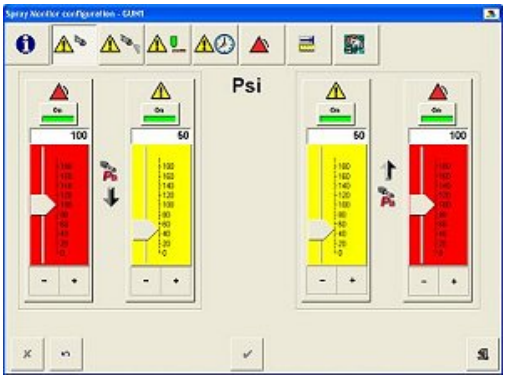
Default Base Fault Settings

Low Base Pressure

High Base Pressure

Alarm Value	Warning Value	Warning Value	Alarm Value
100	75	75	100

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Base Pressure** button at the top of the **Spray Monitor Configuration** window.



4. Touch the **On/Off** buttons to enable or disable the warnings and alarms as desired.
5. Drag the sliders or touch the **–** and **+** buttons to increase or decrease low or high base pressure limits.
6.  Touch the **OK** button to accept your settings.
7. Calibrate the Spray Monitor.

Setting Flow Fault Ranges

The flow fault range settings are threshold levels for low- and high-flow warnings and alarms. Each band is a percentage of the expected pressure drop when the gun sprays. The calibrated difference between base and fire pressure is defined as 100%.

A pressure drop less than that expected indicates a low-flow condition, which could mean that not enough coating was applied. A pressure drop greater than that expected indicates a high-flow condition, which could mean that too much coating was applied.

Default Settings

Low Flow Fault Bands

High Flow Fault Bands

Alarm Value

30%

Warning Value

60%

Warning Value

140%

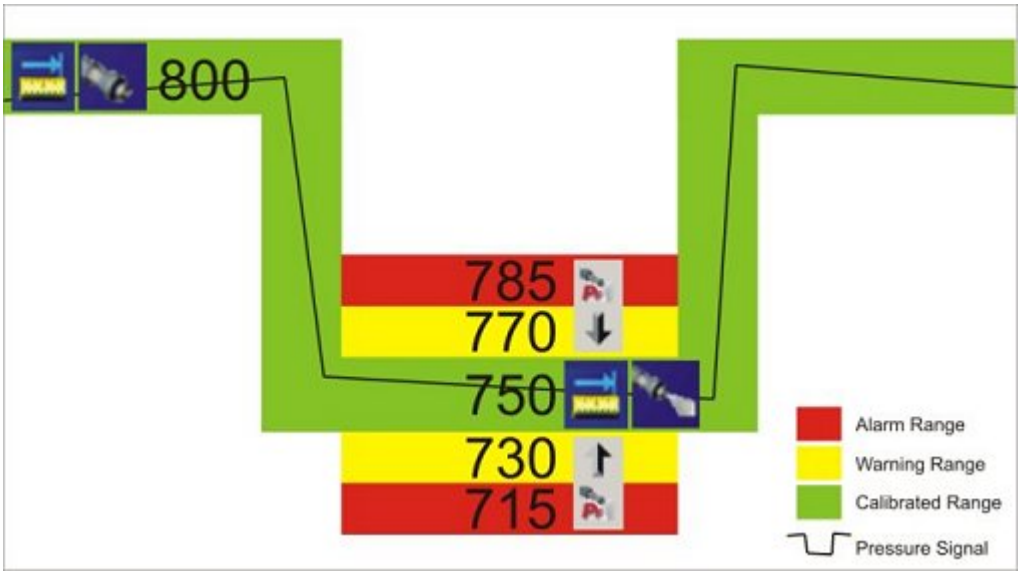
Alarm Value

170%

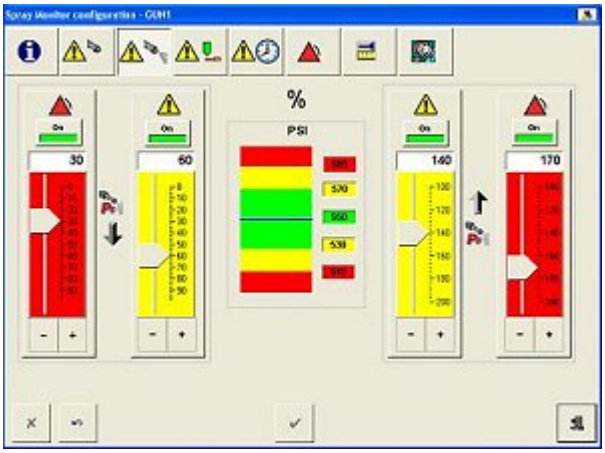
Example

If the calibrated base pressure is 800 psi and the calibrated spray pressure is 750 psi, then the expected pressure drop when the gun sprays is 50 psi. The fault band pressures would be:

Low-Flow Alarm:	785 psi	If the spray pressure does not drop below 785 psi, an alarm is activated.
Low-Flow Warning:	770 psi	If the spray pressure does not drop below 770 psi, a warning is activated.
High-Flow Warning:	730 psi	If the spray pressure drops below 730 psi, a warning is activated.
High-Flow Alarm:	715 psi	If the spray pressure drops below 715 psi, an alarm is activated.



1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Fire Pressure** button at the top of the **Spray Monitor Configuration** window.



4. Touch the **On/Off** buttons to enable or disable the warnings and alarms as desired.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease low or high flow fault limits.
6.  Touch the **OK** button to accept your settings.
7. Calibrate the Spray Monitor.

Setting Trigger Fault Ranges

The OI will generate a fault if the gun is on for longer or shorter than the total trigger duration. The trigger fault range settings allow you to set short trigger and long trigger warning and alarm values to indicate if the guns are spraying too much or too little material.

NOTE: If you are using iTrax Spray Controllers, set the spray gun trigger duration (Spray Time) on the controller configuration screen. If you are using a different timer, refer to the timer manual to set the trigger duration.

Default Trigger Fault Range Settings

Short Trigger Fault Range

Long Trigger Fault Range

Alarm Value

10

Warning Value

5

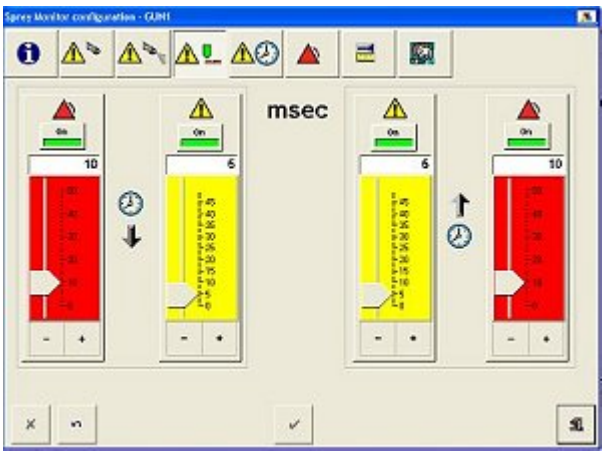
Warning Value

5

Alarm Value

10

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Trigger Timing** button at the top of the **Gun Configuration** window.



4. Touch the **On/Off** buttons to enable or disable the warnings and alarms as desired.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease short or long trigger fault ranges.

Setting Gun Turn On and Off Times

Gun Turn On and Off Time is the approximate time that it takes for the gun to open or close after receiving a trigger signal from the timer. The Gun Turn On and Gun Turn Off settings allow you to specify how sensitive the OI should be to a Gun Open Too Slow warning if gun performance starts to deteriorate due to gun wear or other problems. You can also enable or disable gun on and off warnings.

Default Settings

	
Gun Turn On Time	**Gun Turn Off Time**
25 msec	**35 msec**

Actual on/off times vary and are typically less than the default times. If your application requires more sensitivity to gun open and close timing, decrease the timing until the OI starts generating warnings consistently, then increase the on and off times until the warnings stop.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Gun Timing** button at the top of the **Spray Monitor Configuration** window.

4. Touch the **On/Off** buttons above the slider bars to enable or disable gun turn on and off warnings.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **Gun Turn On** and **Gun Turn Off** settings as appropriate. A warning will be generated if gun does not turn on or off within the specified period of time.

	
Gun Turn Off Time	**Gun Turn On Time**

Setting Fault Tolerances

Fault Tolerance settings determine the number of fault conditions that may occur in a set period of time before the OI alerts you to a fault condition. A value of 1 disables the tolerance function and causes a warning or alarm to be generated every time a fault condition exists. Having a value greater than 1 ensures that a transient, one-time fault condition does not cause an alarm and interrupt production.

Using the default settings as an example: If three warning conditions occur within three seconds, the OI will generate an warning. With the alarm tolerance set to 1, the OI will generate an alarm each time that an alarm condition occurs.

Default Settings

Alarm Tolerance (Occurrences)

1

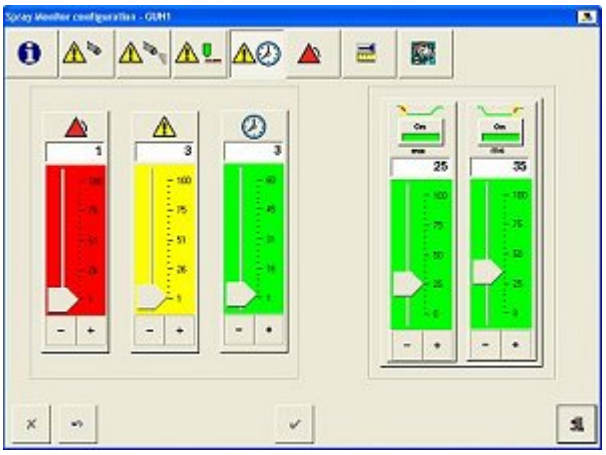
Warning Tolerance (Occurrences)

3

Fault Tolerance Timing (Seconds)

3

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Gun Timing** button at the top of the **Spray Monitor Configuration** window.

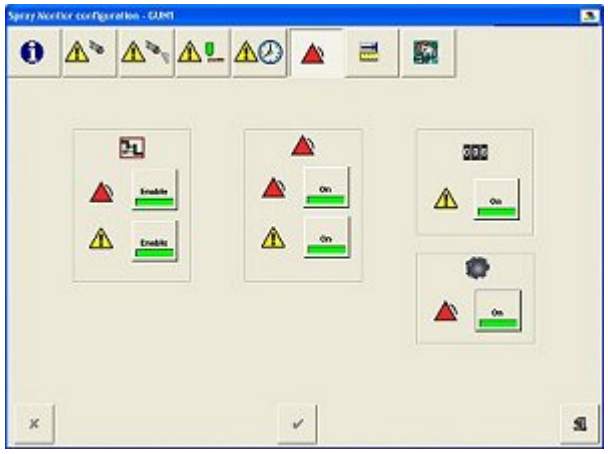


4. Drag the sliders or touch the **–** and **+** buttons to increase or decrease the **Fault Tolerance** settings as appropriate.

Enabling the Can In Pocket Alarm

If your system has the optional Can In Pocket feature, perform this procedure to enable or disable the Can In Pocket alarm.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Fault** button at the top of the **Spray Monitor Configuration** window.



4. Touch this button turn the Can In Pocket alarm on or off.

Spray Controller Configuration

About iTrax Spray Controllers

One Spray Controller module is used for each MEG or A20A and CleanSpray gun combination. Each Spray Controller module consists of a driver board and a timer board, providing trigger timing and coil driver voltage for the spray guns.

Spray Controllers must be set up by your Nordson representative. Contact your Nordson representative to change these settings.

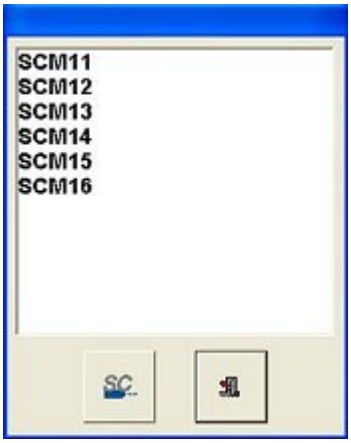
The Spray Controller settings must be configured before starting production. The settings consist of Spray Controller names, lacquer spray gun timing, CleanSpray gun timing, and faults.

Accessing Spray Controller Configuration

1.  Touch the information and setup bar on the Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.

Or:

1.  Touch the **Tools** button on the main button bar.
2.  Select **Configure Spray Controllers** from the drop-down menu. A list window opens.



3. Select the Spray Controller you want to configure from the list.
4.  Touch this button.

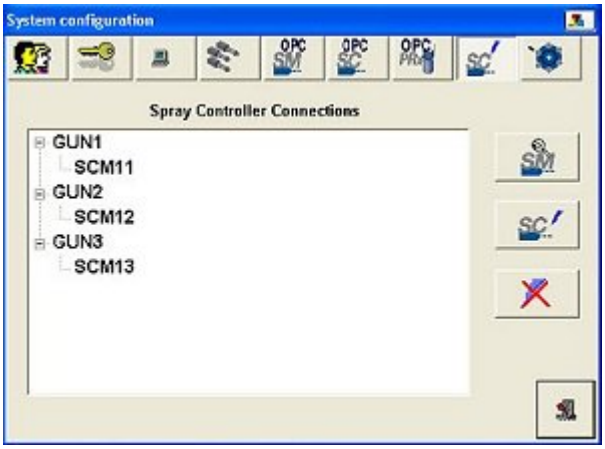
NOTE: You can only access the Copy Spray Controller Configuration from the controller faceplate Information and Setup bar.

Connecting Spray Controllers to Spray Monitors

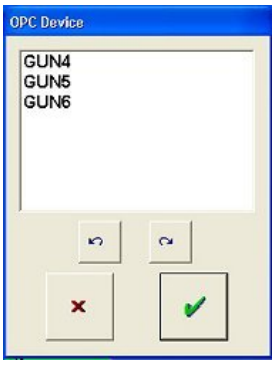
NOTE: Access to this function is normally restricted to Nordson field service personnel or trained administrators.

If your system has both Spray Controllers and Spray Monitors, you must connect the Spray Controllers to the Spray Monitors so that the Spray Monitors can properly monitor system performance.

1.  Touch the **Tools** button on the main screen button bar.
2.  Choose **System Configuration** on the drop-down menu.
3.  Add the Spray Monitors to the OI.
4.  Add the Spray Controllers to the OI.
5.  Touch the **Spray Controller Connections** button. The **System Configuration** window changes to display the connection functions. Existing connections appear in the Spray Controller Connections list.



6.  Touch the **Spray Monitor** button to open the **OPC Device** window. Touch the names of the Spray Monitors you want to add to the connections list, or

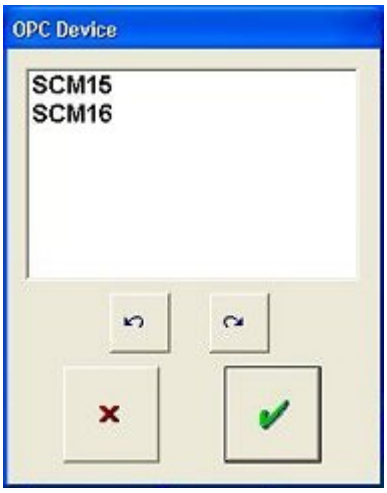


 **Select all** Monitors.

 **Deselect all selected** Monitors.

The selected Spray Monitors appear on the Spray Controller Connections list.

8. Select a Spray Monitor on the Spray Controller Connections list.
9.  Touch the **Spray Controller Connect** button, and select a Spray Controller to associate to the selected Spray Monitor from the **OPC Device** list.



NOTE: You can only select one Spray Controller per Spray Monitor.

8.  Touch the **OK** button to accept your choice and close the window.

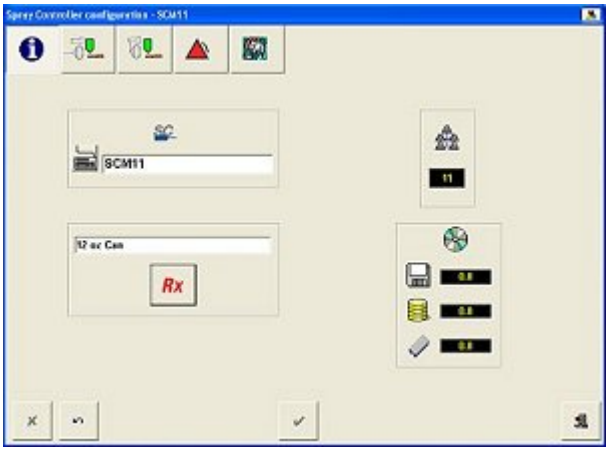
The Spray Controller appears on the **Spray Controller Connections** list, indented to the Spray Monitor to indicate the connection.

Naming Spray Controllers

Spray Controller names appear at the top of the Spray Controller faceplates. Give each controller a unique name (typically with the same name or number as the spray monitor it is associated with) to avoid confusion.

NOTE: The Spray Controller name only appears in the OI. The OPC Server and OPC Data Logger always recognize the Controllers by their default names (SCM11, SCM12, etc.) as defined by the Spray Controller node address switch setting.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Touch the **Details** button on the **Spray Controller Configuration** window.



4.  Enter a unique name in the field below this icon. The name can have a maximum of 15 characters.

    Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

5.  Touch the **OK** button to save the name change.

Setting Lacquer Gun Timers

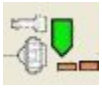
These settings consist of a delay timer setting and a duration timer setting.

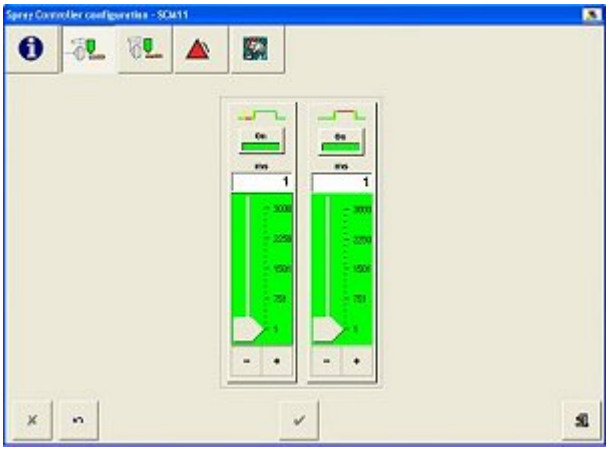
- The **Delay timer** setting delays gun triggering to allow the can to settle into the spray position and get spun up to the proper speed.
- The **Duration timer** setting is the amount of time the gun sprays.

Default Settings

 **Delay** = 1 ms

 **Duration** = 100 ms

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Touch the **Lacquer Gun** button on the **Spray Controller Configuration** window.



4. To enable or disable any of the settings, touch the appropriate **On**/**Off** button.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease setting times.

Setting CleanSpray Gun Timers

These settings consist of a delay timer setting, a duration timer setting and a watchdog timer setting.

- The **Delay timer** setting delays gun triggering to allow time for the last-sprayed can to be rotated away, so that the coating is not affected by the cleaning spray.
- The **Duration timer** setting is the amount of time the gun sprays.
-  The **watchdog** timer setting is a time interval, in seconds. The interval timer starts when the iTrax system receives a stop signal from the spray machine and no can is in the spray pocket. The timer stops when a run signal is received. If no run signal is received and the interval runs out, then the CleanSpray gun is triggered on for the spray duration. This keeps the lacquer spray gun nozzle clean. At the end of the spray duration the watchdog interval timer restarts. The cycle will repeat until a run signal is received.

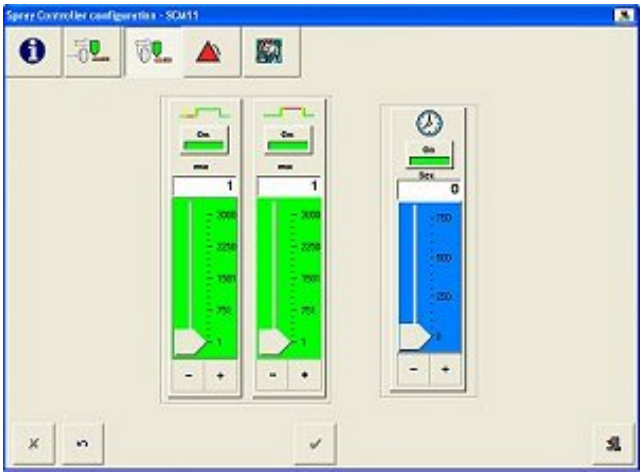
Default Settings

 **Delay** = 1 ms

 **Duration** = 15 ms

Watchdog = 10 seconds

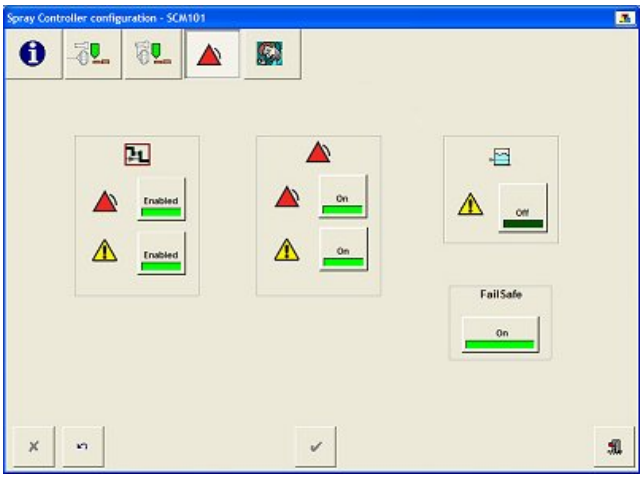
1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Touch the **CleanSpray Gun** button on the **Spray Controller Configuration** window.



4. Touch the **On/Off** buttons to enable or disable the settings.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease setting times.

Configuring Spray Controller Faults

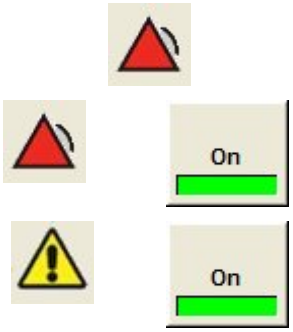
1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Touch the **Alarms** button at the top of the **Spray Controller Configuration** window.



Enabling and Disabling All Faults

CAUTION: If faults are disabled, the relays and the Spray Controller LEDs will not give any indication of a warning or alarm condition if one occurs. On the OI, the warning and alarm icons will not appear in the controller faceplate fault bar and the bar will not change color if a warning or alarm occurs.

Touch the **On/Off** buttons to enable or disable the Alarms and Warnings.



Alarms

Warnings

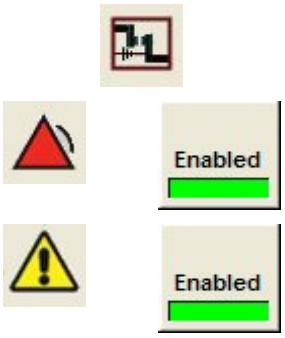
When warning and alarm faults are enabled for a Spray Controller, warning and alarm icons appear in the fault bar on the Spray Controller faceplate.

Enabling and Disabling Fault Relays

Spray Controllers have two sets of fault relays, with both that can be enabled or disabled as needed. These relays are typically connected to operator warning devices such as buzzers and light towers.

NOTE: If the relays are disabled, only the LEDs on the Spray Controllers and the OI fault indicators will alert the operator to a fault. The relays will not operate when a fault occurs.

Touch the **Enabled/Disabled** buttons to enable or disable the fault relays.



Alarm

Warning

Setting Fault Relay Failsafe Mode

Two sets of contacts are provided for each controller warning and alarm relay, one Normally Closed (N.C.) and one Normally Open (N.O.).

The default failsafe mode is **On**. In this mode, the relay coil is energized during operation, holding the N.C. contacts open and the N.O. contacts closed. When a warning or alarm occurs, the relay coil is de-energized; the N.C. contacts close and the N.O. contacts open.

The optional failsafe mode is **Off**. In this mode, the relay coils are de-energized during operation, so the N.C. contacts are closed and the N.O. contacts are open. When a warning or alarm occurs, the relay coils are energized; the N.C. contacts open and the N.O. contacts close.

Caution: If the failsafe mode is set to Off, the relays will not operate if power to the Spray Controller is lost.

Touch the **On/Off** button to toggle the mode On or Off.

Enabling and Disabling the CleanSpray Tank Level Fault

If the CleanSpray gun is supplied from a tank equipped with a level switch and the switch is connected to the Spray Controller tank input, this function can be used to alert the operator when the tank needs to be refilled.

 Touch the **On/Off** button to enable or disable the Tank Fault.

Testing Spray Controllers

The spray controller diagnostic screen allows you to toggle the controller LEDs and relays on and off, force the trigger and active output signals on and off, and monitor controller input states.

The Spray Controller module LEDs and relays default to normally off (relays open). During normal operation, the LEDs remain off and the relays remain open during normal operation. When a fault occurs, the appropriate LED lights and the appropriate relay closes. The LED and relay affected return to their normal state when the fault is resolved.

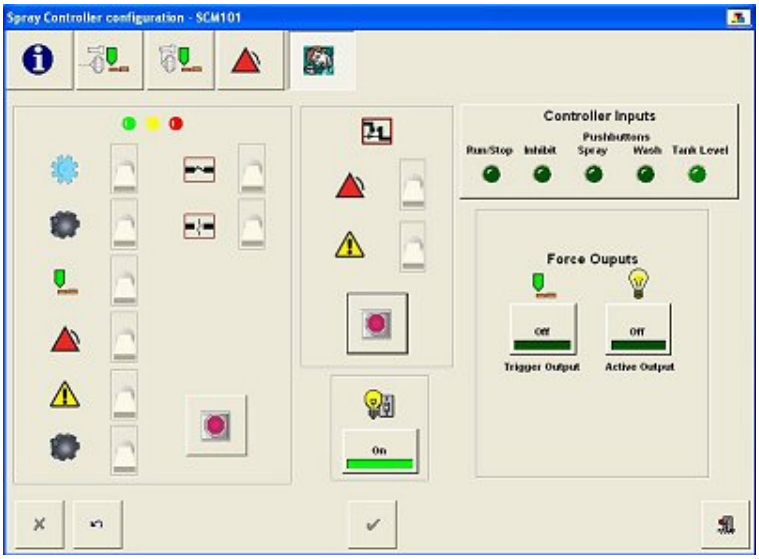
NOTE: The failsafe mode can be changed to closed, if desired, through the Nordson Service screen for the spray controller. If this is done the relays will not open if a fault occurs when spray controller power is lost or shut off.

Toggling LEDs and Relays

Use this procedure to toggle the LEDs and relays to make sure they are functioning.

CAUTION: Shut off the coating system before testing the Spray Controller relays. Testing the relays with the coating system operating will generate an alarm and shut down the system.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Touch the **Diagnostics** button at the top of the **Spray Controller Configuration** window.



NOTE: To prevent an operator from accidentally tripping the relays and shutting down the coating system, you must turn on the Test Mode before you can use it.

4.  Touch the **Test Mode** button toggle it On. The switch backgrounds change from gray to green and the switches move if necessary to show the current operating state of the LEDs and relays. The spray monitor is now in diagnostics mode.

 **LEDs**

Spray Controller LEDs

 Index

 Can-In-Pocket

 Trigger

 Alarm

 Warning

 Auxiliary Can-In-Pocket

 Short: Lacquer Gun or CleanSpray Gun

 Open: Lacquer Gun only

 Relays

Spray Controller Relay Contacts

 Alarm

 Warning

5. Touch the switches as necessary to set the LEDs and/or relays to the desired state. The actual LEDs and relays on the spray monitor will not change until you perform step 5.
   Switch Status

    **De-energized**  **Energized**

6.  Touch the test buttons to test the LEDs or relays. To return the LEDs and relays to their actual operating state, touch the button again.

Controller Outputs

Toggles the **Trigger Output** on and off.

Toggles the **Active Output** on and off.

Use these buttons to test the functioning of the outputs.

Controller Inputs

The Controller Inputs indicators show the state of the inputs connected to the controller. When the indicator is bright green the controller is receiving a signal.

- Run/Stop
- Inhibit
- Spray
- Wash
- Tank Level

Copying Spray Controller Configuration Settings

To make Spray Controller configuration faster and easier, you can configure one Spray Controller (the source) and then copy its configuration settings (its recipe) to other Controllers (the destinations).

1.  Touch the information and setup bar on the source Spray Controller faceplate.
2.  Select **Copy Spray Controller Configuration** from the drop-down menu. The **Copy Spray Controller Configuration** dialog box appears.

The top field shows the source controller. The bottom field is a scrolling list of all Spray Controllers added to the OI.

3. Select the Spray Controllers (destination controllers) to which you want to copy the source configuration settings.
    - To select individual spray controllers, touch their names. When selected they are reverse highlighted (white letters on a dark blue background).
    - To deselect a controller, touch its name again.
    - To select or deselect all controllers in the list, touch the  button.
4.  Touch the **Spray Controller** button. The settings are copied to the selected Spray Controllers.

PRX Configuration

About PRx Modules

NOTE: PRx Modules must be used with Spray Monitors. PRx modules do not have to be added to the OI like the Spray Monitors and Spray Controllers. The PRx Modules are automatically recognized by the OI when they are connected to the network and are associated with a Spray Monitor when their node address is set to the same address as the Spray Monitor. Refer to the PRx hardware manual for the switch settings.

PRx Modules are input/output modules designed specifically for can coating operations. PRx Modules perform the following functions:

- **Temperature Monitor** - uses the inputs from a combination pressure transducer/RTD to monitor fluid temperature at the spray gun.
- **Spin Belt Speed, Chuck Speed, Chuck Bearing Speed Monitoring and Control** - uses inputs from sensors to monitor spin belt pulley speed. Outputs the belt speed setpoint and the actual belt speed to a customer-supplied controller that controls the belt motor. (For speed control, requires an optional Anybus module.) Can also monitor vacuum chuck speed and chuck bearing performance. These two functions require additional sensors for turret home, turret indexing, and chuck speed.
- **Pressure Control** - outputs a desired base pressure to an Nordson pressure controller to control base pressure and obtain the desired fire pressure.
- **Run/Stop Input** - notifies the iTrax system when the can line is started or stopped. Prevents false belt speed or belt spin detect faults.

In addition, the PRx module includes **XCIP** (extended can-in-pocket) inputs:

- Vacuum Detect
- Gun Mount Position
- Can-In-Pocket
- Belt Spin Detect

If the **XCIP output** is enabled, these inputs are combined together. If a malfunction is detected on any of these inputs a fault signal is output to the Spray Monitor, which then turns on an alarm to alert the operator.

PRx functions must be set up by your Nordson service representative. If you need to add or delete a function, contact your service representative.

Accessing PRx Module Configuration Windows

PRx module configuration screens can be accessed in two ways:

1.  Touch the information and setup bar on the PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.

Or:

1.  Touch the **Tools** button on the main button bar.

2.  Select **PRx Configuration** from the drop-down menu. A list window opens.

3. Select the PRx Module you want to configure from the list.
4.  Touch the **PRx Module** button.

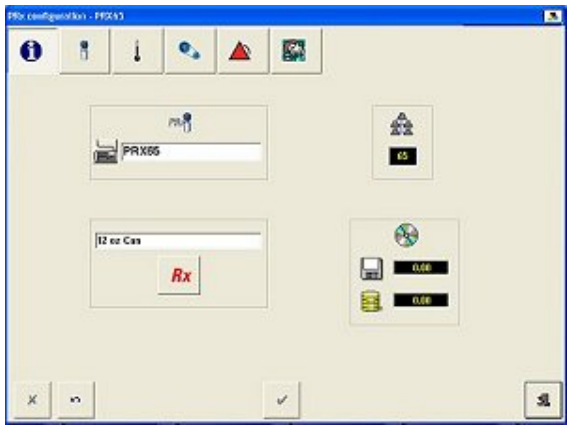
NOTE: You can only access the Copy PRx Configuration function from the PRx Module faceplate Information and Setup bar.

Naming PRx Modules

PRx Module names appear at the top of the PRx Module faceplates. Give each Module a unique name (typically with the same name or number as the spray monitor it is associated with) to avoid confusion.

NOTE: The PRx module name only appears in the OI. The OPC Server and OPC Data Logger always recognize the modules by their default names (PRX65, PRX66, etc.) as defined by the PRx Module node address switch settings.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Information** button at the top of the **PRx Module Configuration** window.



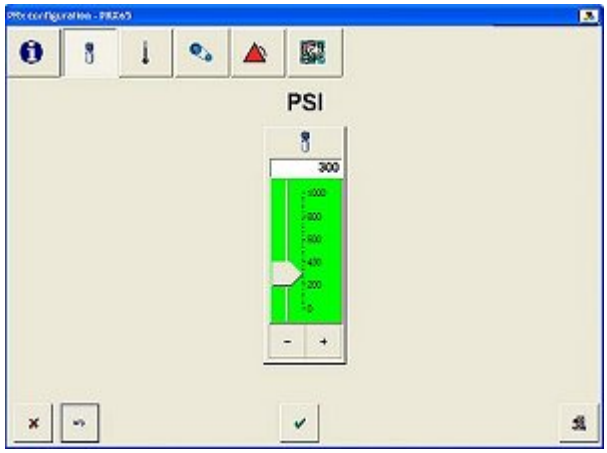
4.  Enter a unique name in the field below this icon. The name can have a maximum of 15 characters.

    Touch the **Keyboard** button to use the Windows on-screen keyboard. When done, touch the **X** button at the upper right corner to close the keyboard.

Setting Base Pressure

NOTE: The Pressure Control function must be enabled by your Nordson service representative before it can be used.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Pressure** button at the top of the **PRx Configuration** window.



4. Drag the slider or touch the **–** and + buttons to increase or decrease the **Base Pressure** setpoint.

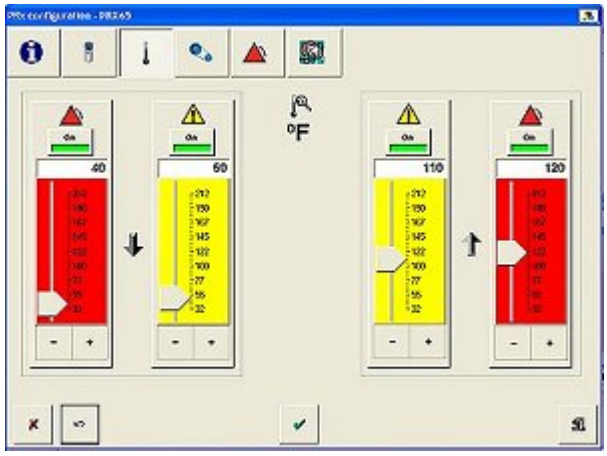
Setting Temperature Faults

NOTE: The Temperature Monitor function must be enabled by your Nordson service representative before it can be used.

Default Settings

Low Temperature Fault Bands		High Temperature Fault Bands	
Alarm Value	Warning Value	Warning Value	Alarm Value
50 °F	75 °F	125 °F	150 °F

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Temperature** button at the top of the **PRx Configuration** window.

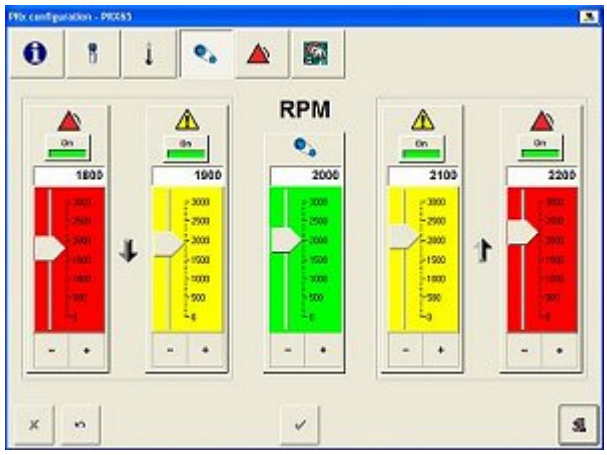


4. To enable or disable the warnings or alarms, touch the appropriate **On**/**Off** toggle button.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **low temperature** and **high temperature** fault limits.

Setting Spin Belt Speed

NOTE: The Spin Belt Speed Control function must be enabled by your Nordson service representative before it can be used, and optional hardware and software must be installed and programmed. Refer to the PRx module manual for more information.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Belt Speed** button at the top of the **PRx Configuration** window.



4. **RPM** Drag the slider or touch the **–** and + buttons to increase or decrease the **Belt Speed** setpoint.
5. To enable or disable the warnings or alarms, touch the appropriate **On**/**Off** toggle buttons.
6. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **low speed** and **high speed** fault limits.

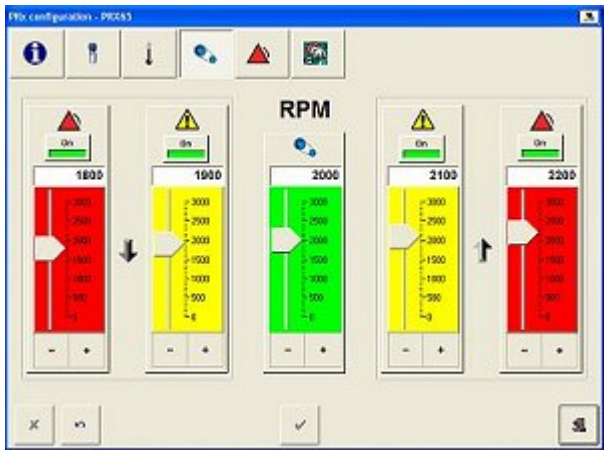
Setting Belt Speed Faults

NOTE: The Belt Speed Monitor function must be enabled by your Nordson service representative before it can be used.

Default Settings

Low Speed Fault Bands		High Speed Fault Bands	
Alarm Value	Warning Value	Warning Value	Alarm Value
1000 RPM	1250 RPM	1750 RPM	2000 RPM

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Belt Speed** button at the top of the **PRx Configuration** window.

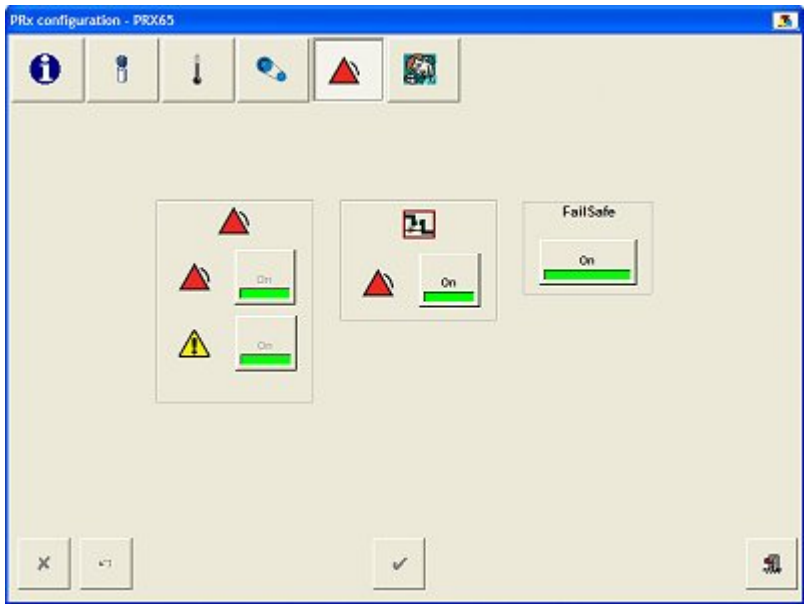


4. To enable or disable the warnings or alarms, touch the appropriate **On**/**Off** toggle button.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **low and high speed** fault limits.

Configuring PRx Faults

NOTE: Functions generating warning or alarm faults must be turned on by your Nordson service representative before they can be used.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Faults** button at the top of the **PRx Configuration** window.



Enabling and Disabling All Faults

When warning and alarm faults are enabled for a PRx module, the warning and alarm icons appear in the fault bar on the module faceplate.

CAUTION: If faults are disabled, the Alarm output and the PRx module LEDs will not give any indication of a warning or alarm condition if one occurs. On the OI, the warning and alarm icons will not appear in the controller faceplate fault bar and the bar will not change color if a warning or alarm occurs.

Touch the **On/Off** buttons to enable or disable Alarms and Warnings for the PRx module.

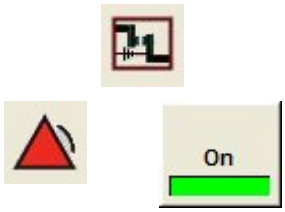
Alarms

Warnings

Enabling and Disabling the Alarm Output

PRx modules have a 24 Vdc Alarm output for driving a customer-supplied external relay or other device. The external relay is typically connected to an operator warning device such as a buzzer or light tower.

Touch the On/Off button to enable or disable the alarm output.



Alarm

Setting Fault Output Failsafe Mode

The default failsafe mode for the PRx alarm output is ON. In this mode, the output is turned off when an alarm occurs. The optional mode is OFF, where the output will be turned on when an alarm occurs.

NOTE: In the default mode, the output will indicate an alarm if PRx module power is turned off or lost.

Touch the **On/Off** button to toggle the Failsafe mode on or off as desired.

Copying PRx Module Configuration Settings

To make PRx configuration faster and easier, you can configure one Module (the source) and then copy its configuration settings (its recipe) to one or more Modules (the destinations).

1.  Touch the information and setup bar on the source PRx Module faceplate.
2.  Select **Copy PRx Configuration** from the drop-down menu. The **Copy PRx Configuration** dialog box appears.

The top field shows the source Module. The bottom field is a scrolling list of all PRx Modules added to the OI.

3. Select the PRx Modules (destination modules) to which you want to copy the source configuration settings.
   - To select individual modules, touch their names. When selected they are reverse highlighted (white letters on a dark blue background).
   - To deselect a module, touch its name again.
   - To select or deselect all modules, touch the  button.
4.  Touch the **PRx Module** button. The settings are copied to the selected PRx Modules.

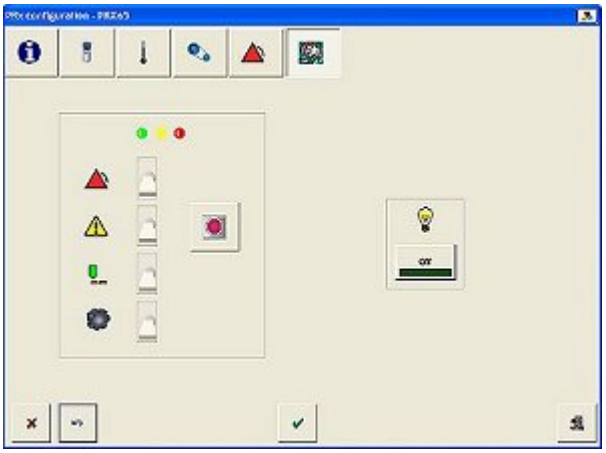
Testing PRx Modules

During normal operation, the PRx Module fault LEDs remain off. If a fault occurs, the appropriate LED lights.

Use this procedure to turn on and off the LEDs to make sure they are functioning.

CAUTION: Shut off the coating system before testing the PRx Modules. Testing with the coating system operating will generate an alarm and shut down the system.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Touch the **Diagnostics** button at the top of the **PRx Configuration** window.



NOTE: To prevent an operator from accidentally tripping the relays and shutting down the coating system, you must turn on the diagnostics mode before you can use it.

4.  Touch the **Test Mode** button toggle it ON. The switch backgrounds change from gray to green and the switches move if necessary to show the current operating state of the LEDs. The PRx Module is now in diagnostics mode.

 **LEDs**

PRx LEDs

 Alarm

 Warning

 Can-In-Pocket Output

 Can-In-Pocket Input

4. Touch the switches as necessary to set the LEDs to the desired state.
   Switch Status

 **De-energized**  **Energized**

5.  Touch the test button to test the LEDs. To return the LEDs to their actual operating state, touch the button again.

Grouping

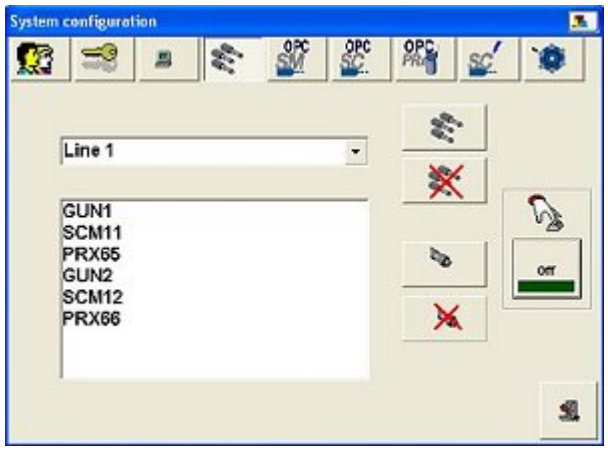
About Groups

The OI allows you to organize modules into groups, making it easier to manage and monitor large numbers of modules. For example, if you are monitoring modules on several production lines, you can create a group for each production line.

When you select a group, only the faceplates for the modules in that group are displayed in the OI main window. All other modules are minimized.

Creating a Group

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Group** button at the top of the **System Configuration** window.



The top field is the Group List. It drops down to show existing groups and the default All group.

The bottom field is the Module List, showing the modules in the currently selected group.

NOTE: Grouping is an OPC server function. The OPC Server always lists the modules by their default names (GUN1, SCM11, PRX65, etc.).

4.  Touch the **Add Group** button. The **Group Name** dialog box appears.

5. Enter a unique group name. The group name can have a maximum of 15 characters.

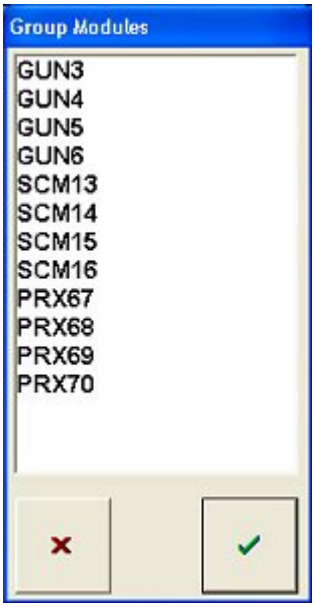
 Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.

6.  Touch the **OK** button to accept the group name and return to the System Configuration window. The new group name will appear in the Group List field.

Adding Modules or Spray Machines to a Group

Use this button to turn **Manual Add** on or off. When it is on, you can choose to add individual modules to a group. When it is off, you can only add Spray Machines that you have already created to a group.

1.  Touch the **Add Modules** button. A dialog box listing the modules or spray machines not already in a group appears.



2. Select the modules or spray machines that you want to add to the group.
3.  Touch the **OK** button to accept your selections. The selected modules, or the modules in the selected spray machines, now appear in the Modules List.
4.  Touch the **Exit** button to close the System Configuration window.

Viewing a Group

 Touch the **Group** button on the main window button bar. A drop-down list of groups appears:

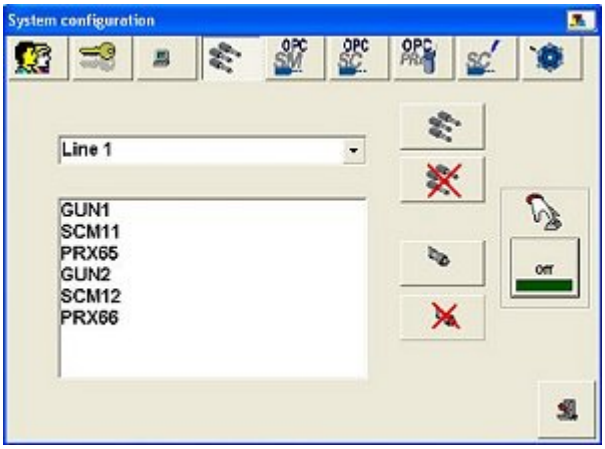
- Select the group that you want to view from the drop-down list.
- To display the faceplates for all modules, select **All Guns**.

The faceplates for the modules in the selected group are displayed, while all others are minimized at the bottom of the main window.

NOTE: Where there are more faceplates than can be displayed in the main window, some faceplates may end up underneath others. You can move faceplates around on the screen by touching their name bars and dragging.

Removing Modules from a Group

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Group** button at the top of the System Configuration window. The **System Configuration** window displays the grouping fields and buttons:



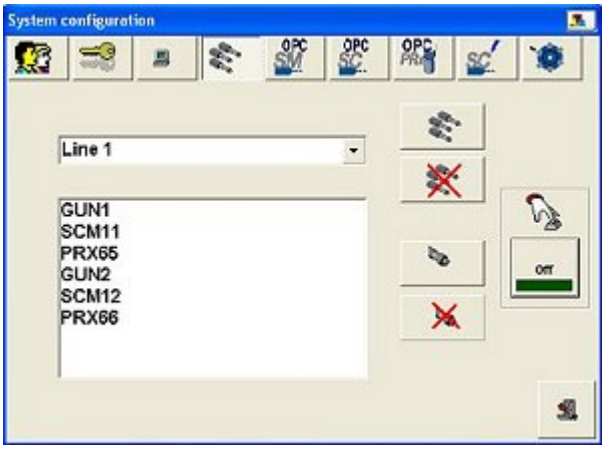
The top field is the Group List. It drops down to show the existing groups and the default All group. The bottom field is the Module List, showing the modules in the currently selected group.

NOTE: Grouping is an OPC server function. The OPC Server always lists the modules by their default names (GUN1, SCM11, PRX65, etc.).

4. Select the desired group from the Group List menu.
5. Select the modules to remove from the Modules List.
6.  Touch the **Delete Module** button. A dialog box will appear, asking you to confirm the operation.
7.  Touch the **OK** button to confirm. The modules are removed from the list.

Removing a Group

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **Group** button at the top of the System Configuration window. The **System Configuration** window displays the grouping fields and buttons.



The top field is the Group List. It drops down to show the created groups and the default All group.

4. Select the group that you want to remove.
5.  Touch the **Delete Group** button to remove the selected group. A dialog box appears, asking you to confirm the operation.
6.  Touch the **OK** button to confirm. The group is removed from the list.

Recipes

One Button Recipes

One-Button Recipes are used to quickly change configurations for a coating line or lines, when changing products. Each recipe contains one or more Spray Machines. Each spray machine consists of one or more modules.

When you create a One-Button Recipe, the current configuration settings for each module in the selected spray machine(s) are copied to the one-button recipe. For Spray Monitors, the calibration data is also copied. Within the One-Button Recipe, a recipe for each module is automatically created. When the One-Button Recipe is loaded, any changes you make to any module's configuration settings are automatically saved to that module's recipe. This allows you to edit and customize the One-Button Recipes for each module in a spray machine.

NOTE: If you enable One-Button Recipes, the **Copy [module] Recipe** functions on the System Configuration drop-down menu are not available, and module recipe functions are disabled.

Using One-Button Recipes

You can create a different One-Button Recipe for each product at one time, using the Nordson Default configuration settings for each module. Then before beginning production of a product for the first time, you can load the recipe and then adjust each module's configuration as necessary while running trial production. The changes you make are automatically saved to the One-Button Recipe module recipes.

Once you have set up a One-Button Recipe for each product the spray machine can handle, you can simply load the One Button Recipe when product changes occur.

Module Recipes

Module recipes are named sets of configuration settings for a module, consisting of all the settings made in the module configuration windows (including the Nordson service settings). For Spray Monitors, the recipes can also include the calibration configuration settings.

Module recipes allow you to quickly change a module configuration for different coating application requirements. Each of the modules on the network (Spray Monitors, Spray Controllers, and PRx Modules) can have their own recipes.

When you create a module recipe, it is available to all modules of the same type. A recipe can be loaded into one module and copied to selected modules. For Spray Monitors, you can choose to copy the calibration configuration settings along with the recipe. Alternatively, you can load a different recipe for each module, as desired.

To load recipes, the modules cannot be running. You can change configuration settings for a module and save them to the recipe while the module is running, but you cannot load the changed recipe into other modules unless they are stopped.

The **Nordson Default** recipe restores the module configuration to the Nordson default settings. These settings are provided as a starting point.

NOTE: Turn **OFF** One-Button Recipes before working with module recipes. If One-Button Recipes are turned on, all of the functions on the Module Recipe dialog box except View are disabled.

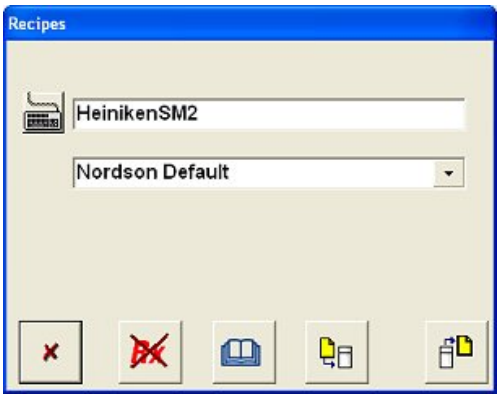
Creating Module Recipes

Recipes can be created for each module, and can be copied to modules of the same type.

NOTE: Turn **OFF** One-Button Recipes before creating module recipes. If One-Button Recipes are turned on, all of the functions on the Module Recipe dialog box except View are disabled.

1.  Touch the information and setup bar at the bottom of the appropriate faceplate. A drop-down menu appears.
2.  Select **Configuration** from the drop-down menu. The selected module **Configuration** window appears.
3.  Touch the **Information** button at the top of the **Configuration** window.
4.  Touch the **Recipes** button. The **Recipes dialog box** appears. Delete the existing name in the top field and enter the new recipe name (maximum 15 characters).

    Touch this button to display the Windows on-screen keyboard. To close the keyboard, touch the **X** button at the top right corner of the keyboard.

5.  Touch the **Save Current Configuration as Recipe** button.
6. Change the recipe settings as required for the application on each module configuration window. The **OK** button becomes active when you change a setting.
7. When all changes have been made, touch the **OK** button. A dialog box appears asking you if you want to **Save as Recipe** or **Cancel**. If you choose **Save as Recipe** the current settings are saved to the new recipe.

   If you choose **Cancel**, the Recipe field on the Information tab will now display **No Recipe**. Touch the **Recipe** button to open the Recipe window and enter a new name for the recipe in the top field, then

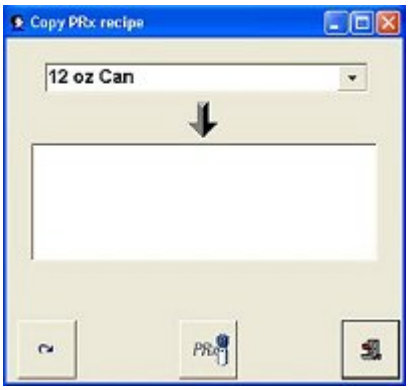
    touch the **Save Current Configuration as Recipe** button to save the new recipe. The recipe configuration dialog box closes and the new recipe name appears in the recipe field.

Copying Module Recipes

To make recipe setup faster and easier, you can create recipes for one module (the Source) and then copy the recipes to other modules of the same type (the Destinations). The **Copy Recipe** functions are enabled only if **One-Button Recipes** are disabled.

NOTE: You cannot copy recipes to modules that are currently running. They must be stopped first.

1. Create a recipe.
2.  Touch the **Tools** button on the main button bar.
3.  Select the **Copy Recipe** from the drop-down menu.
   The **Copy Recipe** dialog box appears. The dialog boxes that appear are dependent on the module type:Spray Monitors, Spray Controllers, or PRx modules.



4. Spray Monitors Only: The top field lists the Spray Monitor groups that have been set up. Select the group that contains the destination Spray Monitors—those to which you want to copy the recipe. If you select ALL, then the destination is all Spray Monitors.
5. All Modules: Select the recipe you want to copy from the drop-down list of recipes.
6. All Modules: Select the destination modules from the scrolling list.
7. Spray Monitors Only: If you want to copy the calibration configuration settings (pressure transducer, CO-plate, nozzle flow rate, and calibration spray count), touch **Copy Calibration Configuration**.

NOTE: If you select **Copy Calibration Configuration**, you will be warned that you may have to calibrate the destination Spray Monitors. To use this option, the spray guns connected to the Spray Monitors should all be equipped with the same types of pressure transducers, nozzles, and CO-plates.

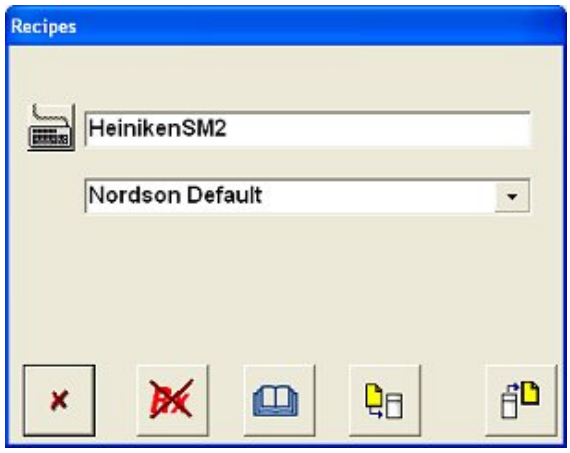
8.  Touch the **Start Copy Operation** button. The recipe is copied to the selected destination devices.

Viewing and Printing Module Recipes

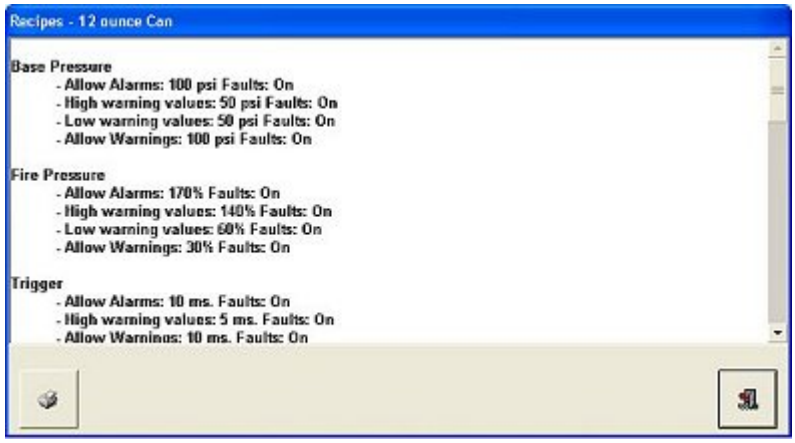
NOTE: Turn **OFF** One-Button Recipes first. If One-Button Recipes are turned on, all of the functions on the Module Recipe dialog box except View are disabled.

To view or print the settings for a particular module recipe, do the following:

1.  Touch the information and setup bar for a module.
2. Select **[module] Configuration** from the drop-down menu.
3.  Touch the **Select/Save Recipes** button on the configuration window.
4. On the **Recipes** dialog, select the desired Recipe from the drop-down menu.



5.  Touch the **View Recipe** button. The View Recipe window opens.

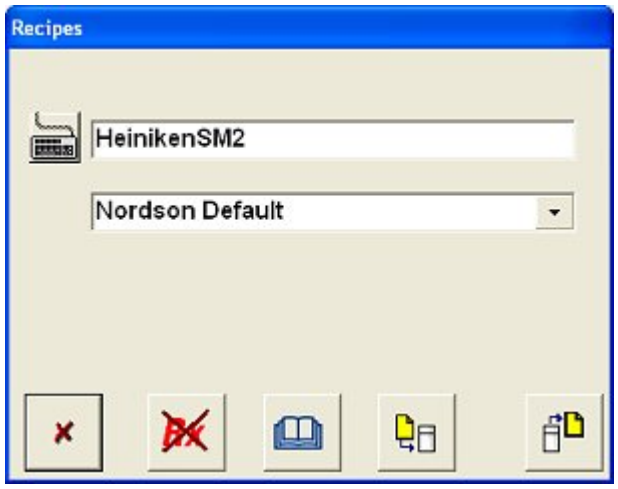


 Touch the **Print** button to print the recipe if your PC is connected to a printer, either locally or through your network.

Loading a Module Recipe

NOTE: Turn **OFF** One-Button Recipes first. If One-Button Recipes are turned on, all of the functions on the Module Recipe dialog box except View are disabled.

1.  Touch the information and setup bar at the bottom of the appropriate faceplate. A drop-down menu appears.
2.  Select **[module] Configuration** from the drop-down menu. The selected module **Configuration** window appears.
3.  Touch the **Information** button at the top of the **Configuration** window.
4.  Touch the **Recipes** button. The **Recipes** dialog box appears.



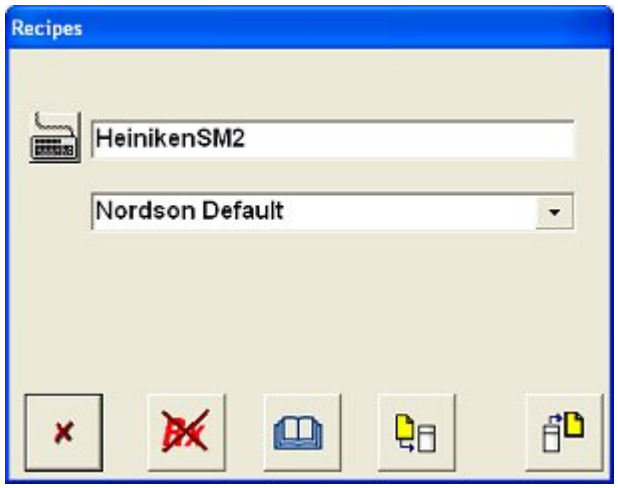
5. Select a recipe from the drop-down menu.
6.  Touch the **Restore Configuration** button to load the recipe.
7.  Touch the **OK** button to make the recipe the current recipe.

Deleting Module Recipes

Follow this procedure to delete a module recipe. This deletes the recipe file from the local client's hard drive.

NOTE: Turn **OFF** One-Button Recipes first. If One-Button Recipes are turned on, all of the functions on the Module Recipe dialog box except View are disabled.

1.  Touch the information and setup bar at the bottom of the appropriate faceplate. A drop-down menu appears.
2.  Select **Configuration** from the drop-down menu. The selected module **Configuration** window appears.
3.  Touch the **Information** button at the top of the **Configuration** window.
4.  Touch the **Recipes** button. The **Recipes dialog box** appears.



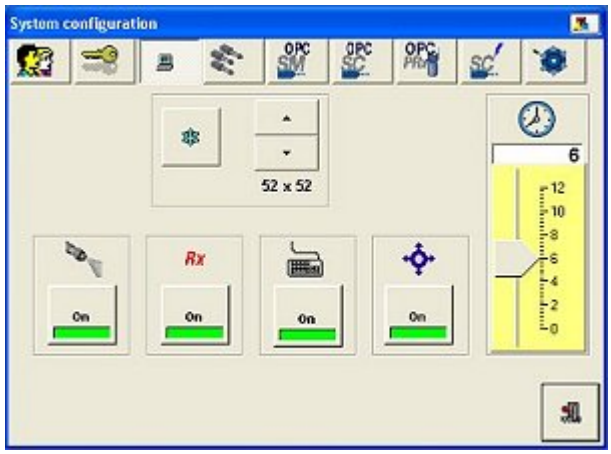
5. Use the drop-down menu to select the recipe to delete. The selected recipe name will appear in the top field.
6.  Touch the **Delete Recipe** button.

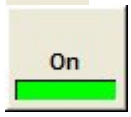
Enabling One-Button Recipes

One-Button Recipes allow you to quickly change production line configurations.

NOTE: When One-Button Recipes are enabled, the **Copy [module name] Recipe** functions on the System Configuration drop-down menu are disabled.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch this button at the top of the **System Configuration** window.

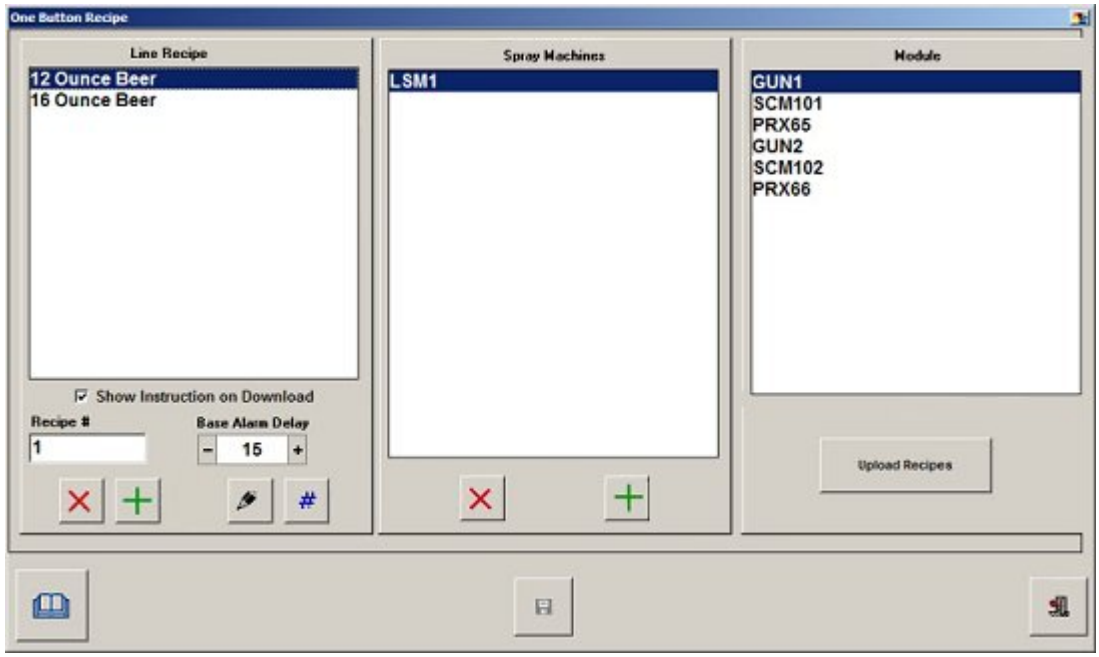


4. 


Touch the Recipe toggle button to turn One-Button Recipes on or off.

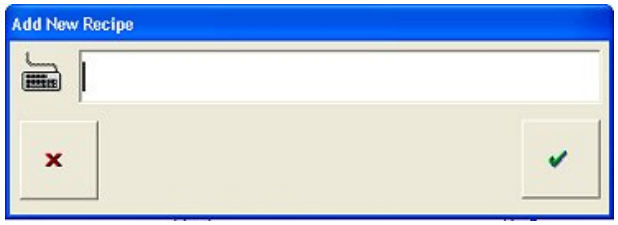
Creating a One-Button Recipe

1. Create Spray Machines as desired.
2. Enable One-Button Recipes.
3.  Touch the On-Button Recipe button on the main button bar and select **[Setup]** from the drop-down menu. The One-Button Recipe Setup window opens. Existing recipes are listed in the Line Recipe field.



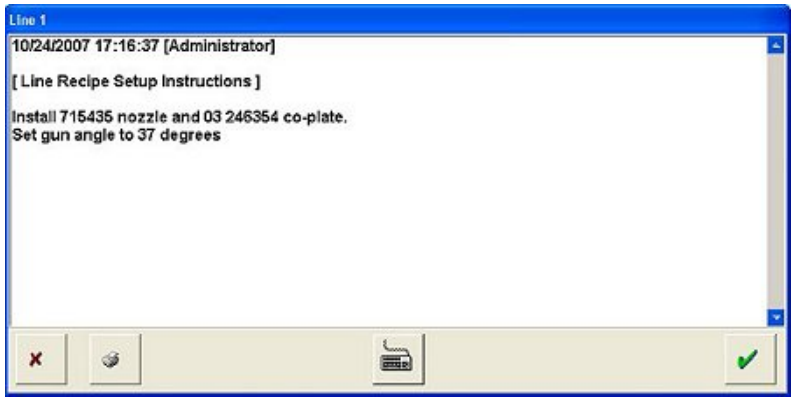
Adding a Line Recipe

1.  Touch this button below the Line Recipe field to open the **Add New Recipe** window. Enter a line recipe name, using the Windows on-screen keyboard if your PC does not have one.
   This name will appear in the One-Button Recipe drop-down menu. Close the window when done. The new line recipe name now appears in the line recipe field and is selected (reverse highlighted).



2. If you want the recipe instructions to be displayed when the recipe is loaded, check the Show Instruction on Download box.
3.  Touch this button to enter a Line Recipe Number. If you have an optional Anybus module installed, this number can be output when the recipe is being used to a customer-supplied controller or other device for monitoring or control functions.
4. Enter the number of seconds for the Base Alarm Delay. The delay timer starts when a new recipe starts loading into the modules. The Base Pressure alarms are shut off during the delay, to prevent nuisance alarms should the base pressure change before new alarm settings are loaded.
5.  Touch this button to open the **Line Recipe Instructions** window. Enter instructions for the operator for settings and adjustments that must be manually performed before beginning production. Use the Windows on-screen keyboard if the iTrax PC does not have one.

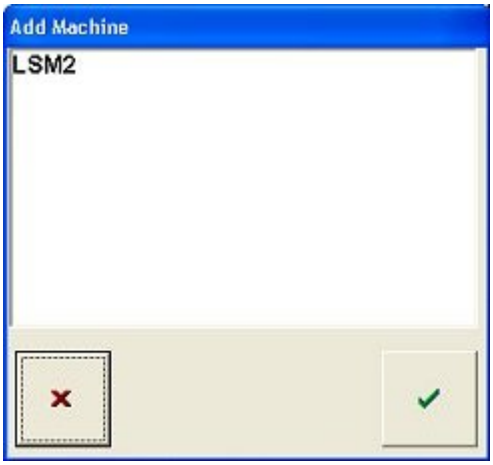
 Print a copy of the instructions, if desired.



6.  Save the instructions and close the window.

Adding Spray Machines to the Line Recipe

1.  Touch this button below the **Spray Machine** field to open the **Add Machine** window Select one or more spray machines from the list. The spray machines must be created first, through the System Configuration window.



2.  Touch this button.

   The spray machines appear in the Spray Machine list and the modules associated with the currently selected spray machine appear in the Module list.

Copying the Current Module Configurations to the New Recipe

1. Make sure the desired One-Button Recipe is selected in the Line Recipe field.
2. Touch the **Upload Recipes** button under the Module list.

   The current configurations of each module in the list are copied to the recipe. A recipe file is created for each module with a name such as 12 Ounce BeerSM1, which can be interpreted as 12 Ounce Beer Spray Monitor 1. When loaded, the module recipe name is displayed in the Recipe field on the Information tab of each module configuration window.

Editing or Deleting a One-Button Recipe

To edit the settings for a One-Button Recipe:

1. Load the desired One Button Recipe.
2. Touch the information bar at the bottom of each module faceplate and select **[module] Configuration**.
3. Edit the module configuration settings as desired. The changes are automatically saved.

To delete a One-Button Recipe:

1.  Touch this button on the main button bar and select **[Setup]** from the drop-down menu.

2. Select the recipe name in the Line Recipe list.
3. Touch the **Delete** button below the Line Recipe list.

To edit Recipe instructions:

1. Touch this button on the main button bar and select **[Setup]** from the drop-down menu.
2. Select the recipe name in the Line Recipe list.
3. Touch the **Instructions** button below the Line Recipe list.
4. Use your keyboard or the Windows on-screen keyboard to edit the instructions. Note that the instructions are a text file that can be edited with Notepad or another text editor. The instruction files are located in the NdsnServer\Recipes folder on the Local Client PC.

To add a Spray Machine to a Recipe:

1. Touch this button on the main button bar and select **[Setup]** from the drop-down menu.
2. Select the recipe name in the Line Recipe list.
3. Touch the **Add** button below the Spray Machine list.
4. Select a spray machine from the Add Spray Machine window.

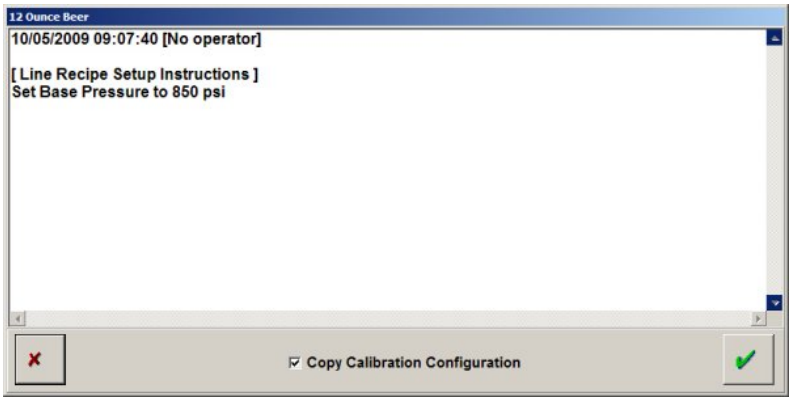
To delete a spray machine from a Recipe:

1. Select the spray machine.
2. Select the recipe name in the Line Recipe list.
3. Touch the **Delete** button below the Spray Machine list.

Loading a One-Button Recipe

1. Touch the **Recipe** button on the main button bar.
2. Select a recipe name from the drop-down menu.

3. Follow the instructions on the **Line Recipe Setup** window.



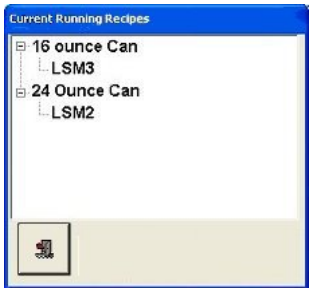
4. By default, the Spray Monitor Calibration Configuration settings and Calibration Data are copied to the modules when the recipe is loaded. If you do not want this to happen, touch the **Copy Calibration Configuration checkbox** to de-select it.
5.  Touch the **OK** button to load the recipe.

Viewing Current Running Recipes

If One-Button Recipes are enabled, you can view the currently running recipes:

 Touch the **One-Button Recipe** button on the main button bar.

Touch **Current Running Recipes** on the **drop-down menu**. The **Current Running Recipes** window opens, listing the current running recipes, with the spray machines running each indented below the recipe names. Use the scroll bar if necessary.



Operation

Logging In

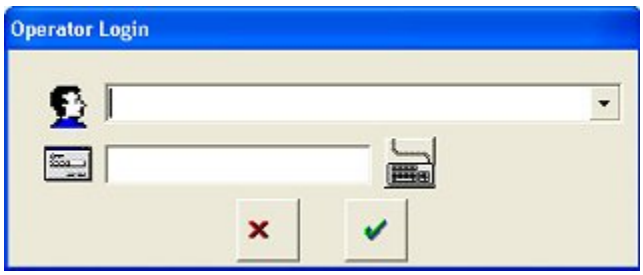
If the security system is enabled, all operators must log in to the OI before they can change any settings.

The icons on the **Log In** button on the main button bar indicate whether or not someone is logged in to the system:

 Security system is enabled; no operator is logged in. Touch the button to log in.

 Security system is enabled; an operator is logged in. Touch the button to log out.

1.  Touch the **Log In** button on the main button bar. The **Operator Login** dialog box appears.



2.  Select your user name from this drop-down menu.
3.  Enter your password in this field.

    Touch the **Keyboard** button to use the Windows on-screen keyboard. Close the keyboard by touching the **X** button at the upper right corner of the keyboard.
4.  Log in, or  cancel the log in.

    When you have successfully logged in, the Log In button icon changes to show that you are logged in. Your user name appears in the taskbar.

CAUTION: After you have finished making changes, log out of the OI to prevent unauthorized personnel from making unwanted changes to the system.

Logging Out

To log out of the OI:

 This icon on the **Log In** button indicates that someone is logged in, and the user name appears in the taskbar.

Touch the button to log out.

 The button icon changes and **No Operator** appears in the taskbar. No changes can be made to the system.

Starting the iTrax OI and Viewing Data

Startup

During iTrax software installation, shortcuts for the OPC Server and iTrax OI are created on the Windows desktop. Double-clicking on the OI icon starts the OPC server first, then the OI.

NOTE: To run the OI, the OPC Server MUST be running. If you shut down the OPC server while the OI is running, you must shut down the OI, then restart it to start the OPC server and OI.

After you start the OI, you must log in if the security system is enabled.

Viewing Data

Refer to **Main Screen Elements** for information on:

- Spray Monitor Faceplates
- Spray Controller Faceplates
- PRx Faceplates
- Viewing and Printing Graphs

Large Read Out

On a Spray Monitor faceplate, double-clicking on an actual value (left column) in the pressure window opens a **Large Read Out** window. These windows can be used by the operator to monitor base, fire, or ΔP from a distance.

Viewing Faults

If a fault occurs during production, the OI displays a fault message and records the fault. Faults can be viewed and cleared through the OI.

NOTE: Faults and relays must be enabled in order for a fault message to appear in the OI.

Loading Recipes

Recipes for coating containers can be loaded in two ways, depending on how your iTrax OI is configured and your security settings. Refer to Recipes for information on:

- Loading a One-Button Recipe
- Loading a Module Recipe

Viewing Graphs

Graphs that show base and spray pressures can be displayed in real time whenever the iTrax system is operating.

1.  Touch the information and setup bar at the bottom of the appropriate Spray Monitor faceplate.
2.  Select **Display Pressure Graphs** from the drop-down menu. A real-time graph showing base and fire pressures appears.

 Touch the **Icon Help** button at the upper right corner of the graph window to view a description of the buttons on the graph.

NOTE: More detailed, historical graphs are available through the optional iTrax OPC Data Logger application.

Switching to the Data Logger

 Touch the **Data Logger** button to open the iTrax OPC Data Logger and start logging data. From the Data Logger main toolbar you can easily switch back to the Operator Interface.

NOTE: This optional function has powerful graphing and data tracking capabilities. Contact your Nordson representative for more information.

Resetting Spray Counters

The spray counters maintain a running count of gun triggers (sprays). The spray counters can be reset manually from the OI. Older Spray Monitors would automatically reset the counters when they were turned off; new Spray Monitors retain the counters in memory when they are turned off. You can also turn on or off the spray counters.

There are two spray counters:

Total Spray Counter: Counts all sprays, both good and bad. The Total Spray Counter is based on the timer signal. When enabled, it appears on the Details window and faceplate. If disabled, it still appears on the Details window.

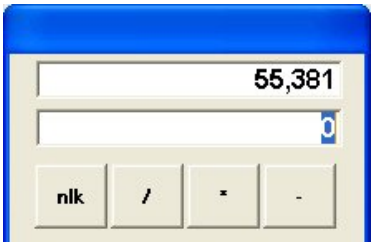
Bad Spray Counter: Increments each time the gun sprays while an alarm condition exists. It is based on alarm occurrences and appears on the Details window only when enabled.

The spray counters may be reset for one Spray Monitor at a time or for several Spray Monitors at once:

Touch one of the following links for instructions on resetting spray counters.

Reset Spray Counters for a Single Spray Monitor

1.  Touch the information and setup bar at the bottom of the appropriate spray monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch this button at the top of the **Spray Monitor Configuration** window.
4.  Touch this button for the spray counter you want to reset. A keypad appears, displaying two fields. The top field displays the current spray count. The second field is the reset field.



5. Enter zero or the number you want to reset the count to.
6.  Touch this button to reset the spray count. The spray counter displays the value you entered and the reset is recorded in the counter reset history.

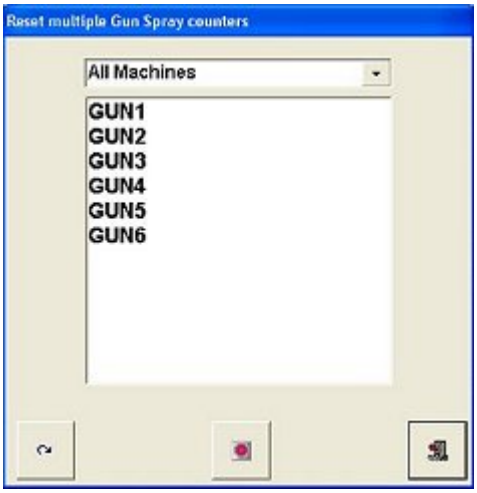
NOTE: If you do not have permission to access the Nordson service screens you cannot use the Configuration window to reset the Bad Spray Count for a single spray monitor. Use the Reset Multiple Gun Bad Spray Counters function on the System Configuration drop-down menu instead.

Reset Spray Counters for One or More Spray Monitors

1.  Touch this button on the main button bar.
2. Select the appropriate counter to reset from the drop-down menu:

   Reset Multiple Gun Spray Counters: Resets the Total Spray Counters.

   Reset Multiple Gun Bad Spray Counters: Resets the Bad Spray Counters.
3. The Reset Multiple Gun Spray Counters window appears. Select the one or more spray monitors.

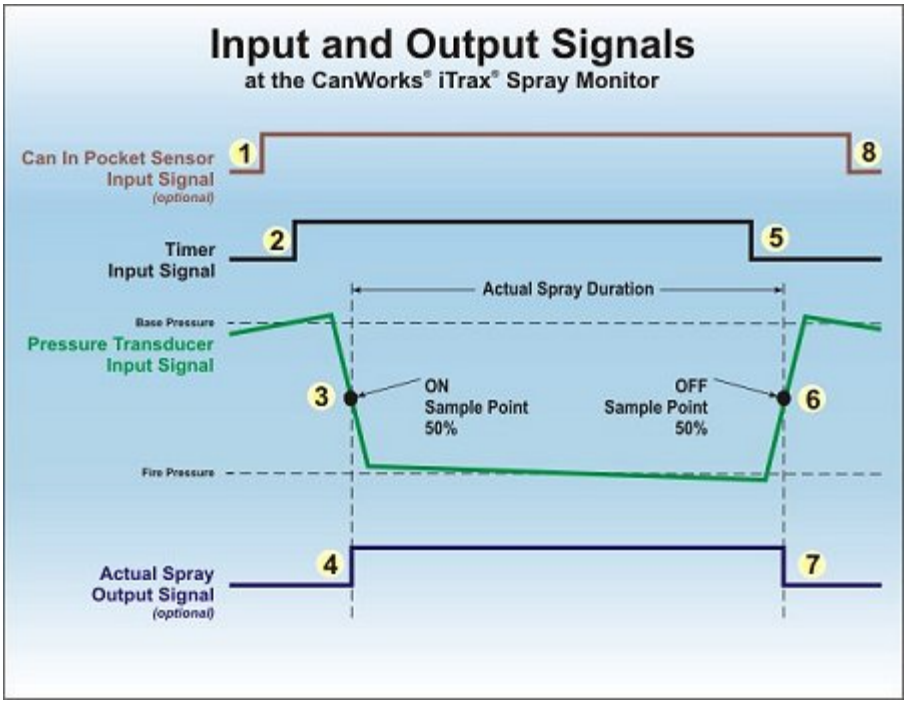


4.  Touch this button to reset the selected counters.

Spray Monitor Input and Output Signals

This diagram shows how the Spray Monitor input and output signals work together each time a can is coated. The numbers on the diagram indicate the order in which the signals are sent.

Touch the numbers in circles for a description of the cause and effect of each signal.



Calibration

About Spray Monitor Calibration

CAUTION: Your coating system should be performing to specifications when you calibrate the spray monitors. If the coating system is operating poorly when you calibrate, the iTrax system will continue to allow the system to operate poorly and generate inaccurate faults.

Calibration collects operating data to use as an operational baseline. Each time a product is coated during normal operation, the actual base, fire, and delta pressures are compared to the calibrated (baseline) pressures. If the actual pressures are outside of permissible ranges around the calibrated pressures, a fault occurs.

During calibration, the Spray Monitor records the base and fire pressures of several sprays and determines valid warning and alarm conditions depending on the base and flow settings made during Spray Monitor fault setup.

Perform a calibration when you

- Clean or modify the fluid system
- Change nozzle size
- Change the CO-plate
- Change the base pressure
- Change the spray duration
- Replace a gun

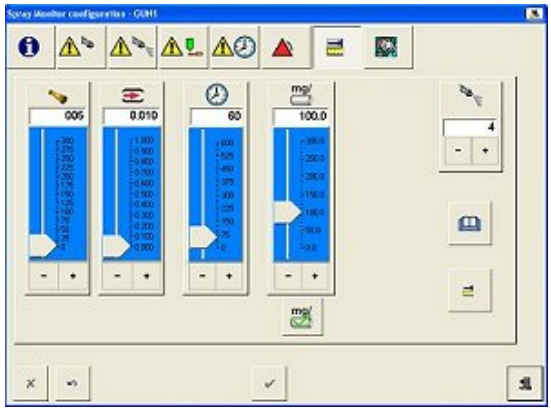
NOTE: Before you perform a calibration, enter the nozzle flow rate and CO-plate designators into the OI.

You can calibrate either a single gun or multiple guns at the same time. Touch one of the links below to view instructions for running a calibration.

Calibrating a Single Spray Monitor

CAUTION: Your coating system should be performing to specifications when you calibrate the spray monitors. If the coating system is operating poorly when you calibrate, then the iTrax OI will continue to allow the system to operate poorly and generate inaccurate faults.

1. Install the desired nozzle and CO-plate on the spray gun.
2. If not already done, configure the calibration settings.
   - Calibration spray count
   - Calibration timeout
   - Nozzle and CO-plate designators
3. Start the fluid pump and adjust the fluid pressure.
4. Start the coating system and start spraying product.
5. Adjust the fluid pressure for best results.
6.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
7.  Select **Spray Monitor Configuration** from the drop-down menu.
8.  Touch this button at the top of the **Spray Monitor Configuration** window.



9.  Touch this button to start the calibration. The calibration process takes only a few seconds. When the calibration is complete, the Spray Monitor re-enables fault monitoring and returns to normal operation.
10. Inspect the products that were coated during the calibration. If the quality is not acceptable, inspect the gun operating pressure, CO-plate, and nozzle. Calibrate the spray monitor again if you change anything.

NOTE: If the Calibration Timeout Period expires before the calibration is complete, an error message appears, the calibration is cancelled, and fault monitoring is enabled. Repeat this procedure to restart a calibration.

Calibrating Multiple Spray Monitors

CAUTION: Your coating system should be performing to specifications when you calibrate the spray monitors. If the coating system is operating poorly when you calibrate, then the iTrax OI will continue to allow the system to operate poorly and generate inaccurate faults.

1. Install the desired nozzle and CO-plate on the spray guns.
2. For each Spray Monitor, if not already done, configure the calibration settings.

   Calibration spray count

   Calibration timeout

   Nozzle and CO-plate designators
3. Start the fluid pump and adjust the fluid pressure.
4. Start the coating system and start spraying product.
5. Adjust the fluid pressure for best results.
6.  Touch this button on the main button bar. A drop-down menu appears.
7.  Select **Calibrate Multiple Spray Monitor Guns** from the drop-down menu. The **Calibrate Multiple Spray Monitor Guns** window appears.

   The top field is a drop-down list of existing Spray Monitor groups.

   The bottom field lists the Spray Monitors in the currently selected group.
8. Select the group that contains the guns you want to calibrate.
9. Select the Spray Monitors you want to calibrate:

   To select a Spray Monitor, touch its name.

   To deselect a Spray Monitor, touch its name again.

    Touch this button to **select** or **deselect** all Spray Monitors.

10.  Touch this button to start the calibration. The calibration process takes only a few seconds. The **Calibrate Multiple Spray Monitor Guns** status screen appears. When the calibration is complete, the Spray Monitor re-enables fault monitoring and returns to normal operation.

    Inspect the product that was coated during the calibration. If the quality is not acceptable, inspect the operating pressures, CO-plate, and nozzle. Calibrate the Spray Monitors again if you change anything to improve the product quality.

NOTE: If the Calibration Timeout Period expires before the calibration is complete, an error message appears, the calibration is cancelled, and fault monitoring is enabled. Repeat this procedure to restart a calibration.

History Data

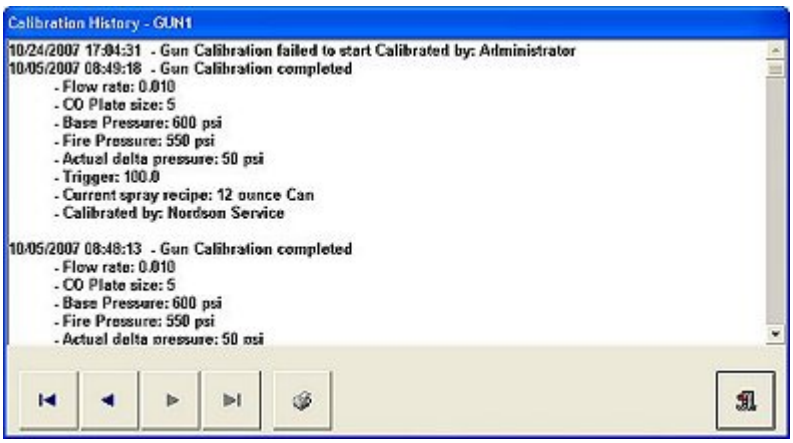
About History Data

The iTrax system maintains calibration, fault, and spray counter reset history data for each Spray Monitor module in the system. The system retains the history data for a user-specified period of time.

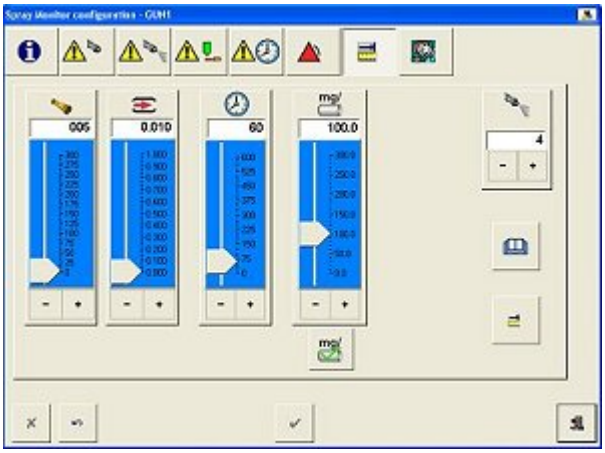
The following information is saved in the history data files:

Calibration History Data

- Date, time, and result of calibration
- Flow rate designator
- CO-plate designator
- Base pressure
- Fire (spray) pressure
- Actual delta pressure
- Recipe with which the gun was calibrated
- Which operator performed the calibration

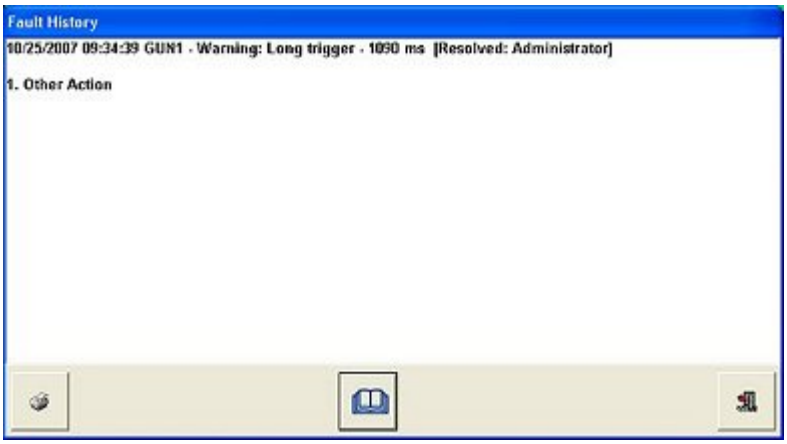


 Touch the **History** button on the **Spray Monitor Calibration Configuration** window to open the Calibration screen.



Fault History Data

- Date and time the fault occurred
- Fault message
- Activity at the time the fault occurred
- Whether or not the fault has been resolved
- Which operator resolved the fault

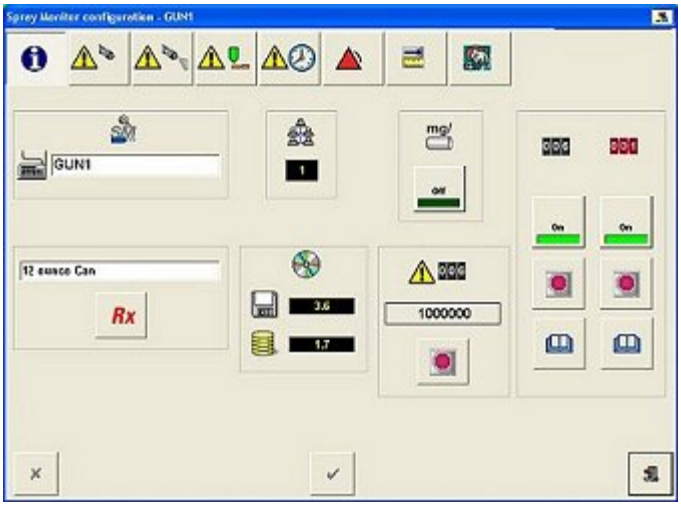


The above screen is opened by touching the Fault button on the main button bar, or the fault bar on a Module faceplate.

Spray Counter Reset History Data:

- Starting and ending values at reset,
- Date and time the counter was reset
- Which operator reset the counter

 **Touch the** History **button on the** Spray Monitor General Configuration **window to access the** Spray Counter Reset **screen.**



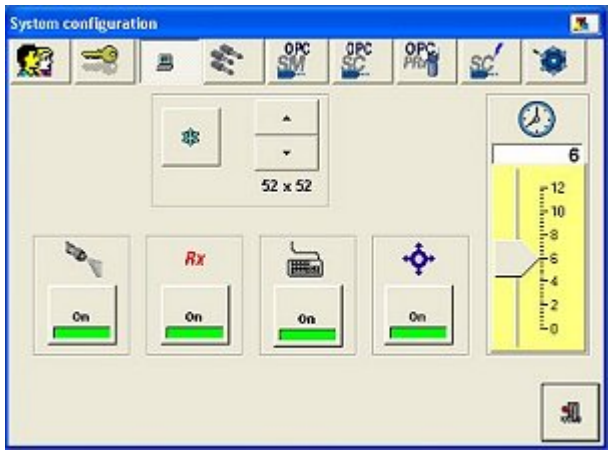
Setting the History Data Retention Period

The iTrax system maintains spray counter reset, calibration, and fault history logs for each Spray Monitor in the system.

The history data retention period is the maximum time (in months) for which the system saves history data. For example, if the retention period is set to two months, then data older than two months is automatically deleted.

1.  Touch the **Tools** button on the main button bar. A drop-down menu appears.
2.  Select **System Configuration** from the drop-down menu.

3.  Touch this button at the top of the **System Configuration** window.



4.  Move this slider up or down to set the history data retention period. The current period is shown in the field at the top of the slider.

NOTE: Setting the value to **0** causes the system to maintain all history data indefinitely.

Viewing Fault History and Resolution

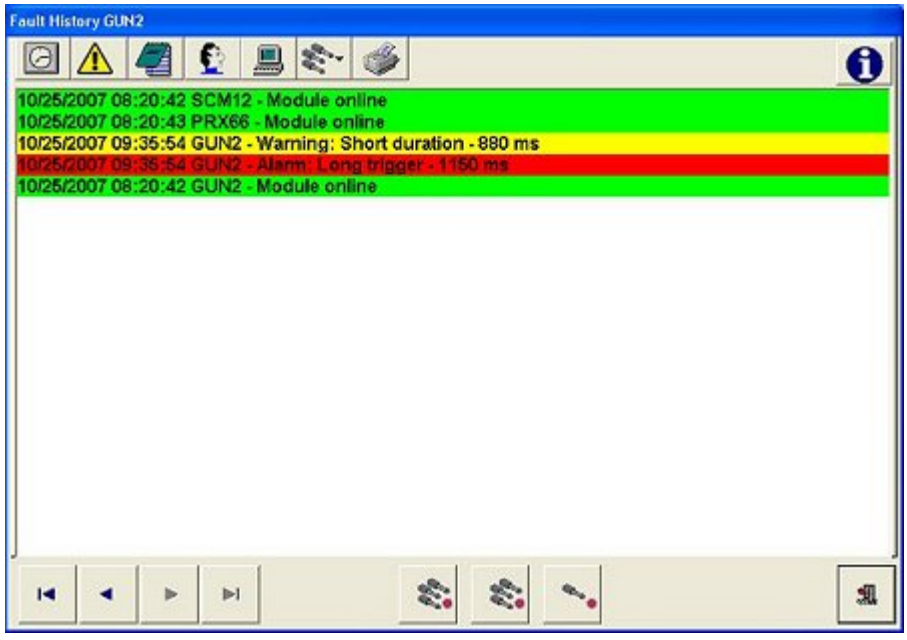
If a fault occurs more than once, you can view a report describing previous fault resolutions. You can then resolve the current fault in the same way.

NOTE: The system maintains the fault history for a user-specified period of time. Click here for instructions for changing the history data retention period.

Resolved Fault Report

To view a fault resolution report for a resolved fault:

1. Touch the fault status bar on the desired module faceplate to open the module **Fault History** window.



2. Touch the **resolved** fault that you want to view.
3.  Touch the **Information** button. The **Fault History** report window appears, listing how the fault was resolved.

 Touch the **Print** button to print the fault history report.

 Touch the **History** button if one of the resolutions selected was **Other Action Taken**. This displays any comments entered in that day's **userres** file. If there are comments for multiple faults, the **userres** file opens to the currently selected fault comments.

Unresolved Fault Report

To view a comments file from the Fault Help system:

1. Select the unresolved fault from the Fault History window.
2.  Touch the **Information** button. Fault Help opens.
3. Select your language, then select the appropriate fault message. The fault troubleshooting chart opens.
4.  Touch the **Comments** button. Windows Notepad opens and displays the comments file created for the previous occurrence of the fault, if one exists.

If no comments file exists, you can choose to create one. Use the comments file to record resolutions for specific faults.

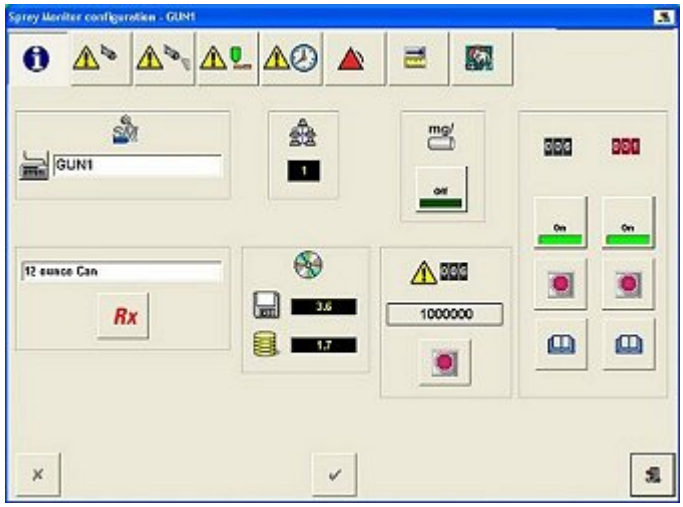
Viewing Spray Counter Reset History

The Total Spray Counter and Bad Spray Counter maintain a running count of gun triggers (sprays). You may view and print a report detailing the values at which each counter was reset, when it was reset, and by whom.

Click here for instructions for resetting the spray counters.

NOTE: Each Spray Monitor maintains its own spray counter history.

1.  Touch the gun information and setup bar at the bottom of the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch this button at the top of the **Spray Monitor Configuration** window.



4.  Touch this button. The **Counter Reset History** window appears.

NOTE: Numbers in parenthesis are the starting and ending values of the counter reset. For example, **(70187>>0)** means that the counter was reset from 70187 to 0.

 Touch this button to print the counter reset history.

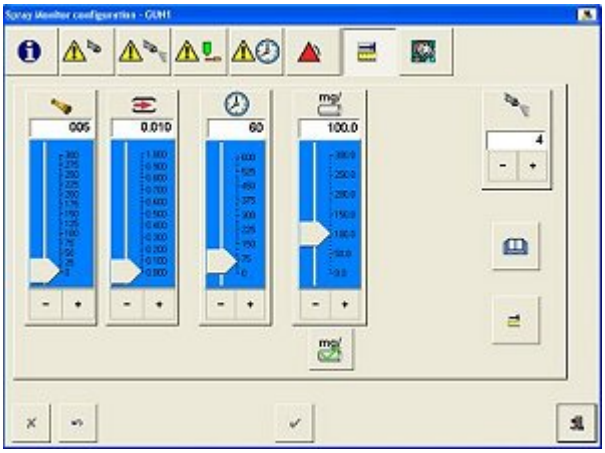
Viewing Calibration History

The Calibration History is a log that contains the calibration information for an individual Spray Monitor.

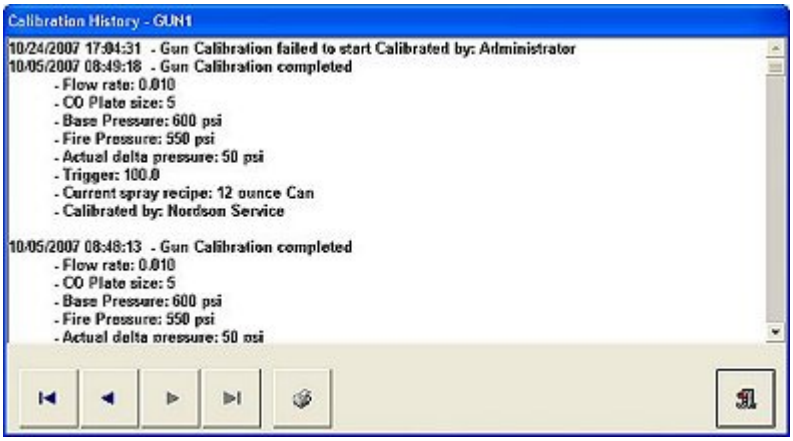
- Time, date, and result of calibration
- Nozzle flow rate designator
- CO-plate designator
- Base pressure
- Fire (spray) pressure
- Actual delta pressure
- Recipe with which the gun was calibrated
- Which operator performed the calibration (person logged in during the calibration).

NOTE: You cannot view a calibration history for multiple Spray Monitors.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate. A drop-down menu appears.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch this button at the top of the **Spray Monitor Configuration** window.



4.  Touch this button. The **Calibration History – [Gun Name]** window appears.



Use these buttons to scroll through the calibration history day by day.

Touch the print button to print out the calibration history.

NOTE: The system maintains the calibration history for a user-specified data retention period.

Fault Troubleshooting

About Faults

The iTrax system notifies the operator if a fault occurs. Faults are grouped according to severity or frequency into Warnings or Alarms. Fault levels for operating parameters are set from the module configuration screens.

NOTE: Faults must be enabled in order for the OI to generate a fault.

If a fault occurs, the following change to Yellow (Warning) or Red (Alarm)

- main button bar background,
- fault status bar on affected module faceplate,
- information and setup bar on affected module faceplate.

On affected modules, the yellow or red LEDs light.

Refer to Fault Messages and Resolutions for a list of fault messages and suggested resolutions.

Disabling and Enabling Faults

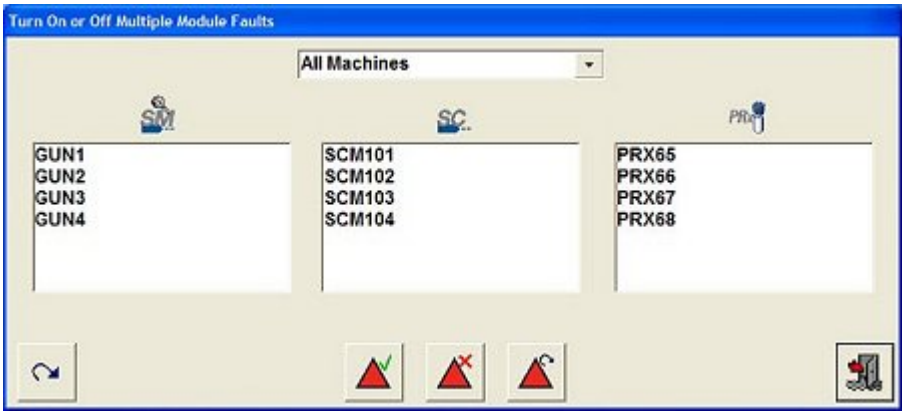
The OI can ignore some or all faults generated by the iTrax modules, depending on the module type.

Default Setting for All Faults: On (enabled)
For the iTrax system devices, you can enable or disable some or all faults through the module configuration windows. Touch the Related Topics buttons to view a list of topics covering fault enabling and disabling.

Multiple Module Fault On/Off

Faults can be turn on or off for one or more Spray Monitor, Spray Controller, and PRx modules as desired, through the Multiple Module Faults On/Off screen.

1.  Touch the **System Configuration button** on the main screen button bar.
2.  Select **Multi Module Fault On/Off** from the dropdown menu. The **Multi Module Fault** screen appears.



3. From the center-top field, select All Machines or the desired Spray Machine.

4. From the  Spray Monitor,  Spray Controller, or  PRx module fields, select the desired modules.
5. Touch one of the following buttons:

 Turn On Selected Module Faults

 Turn Off Selected Module Faults

 Restore Selected Module Faults

Viewing Faults

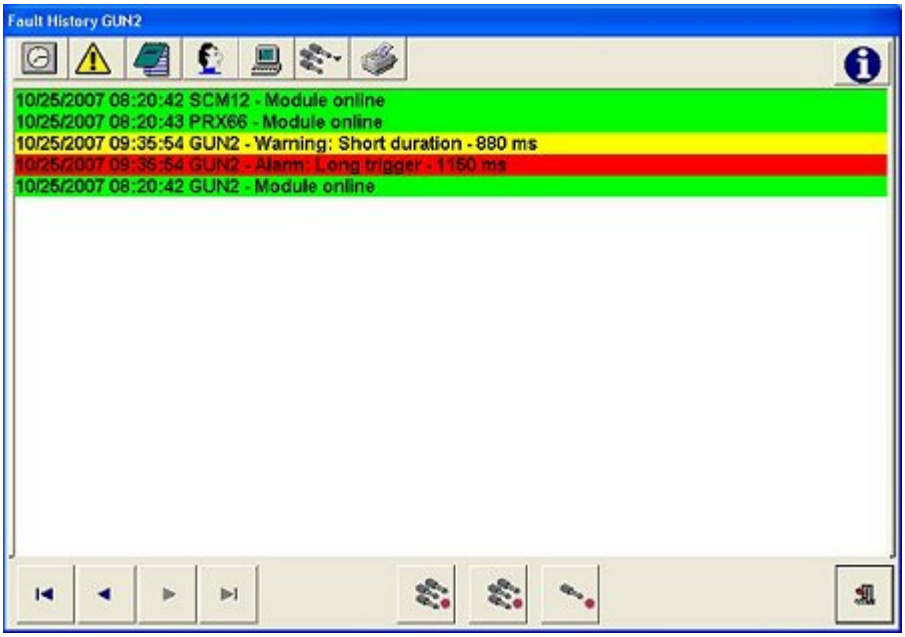
Faults can be viewed and reset from the **Fault History** window.

Open the **Fault History** window by either

- touching the fault status bar on the appropriate faceplate, or
- touching the  button on the main button bar.

Fault History Window

The **Fault History** window displays both unresolved and resolved faults. Faults are color coded to identify their current status:



Red: Active alarm

Yellow: Active warning

Green: Resolved warning or alarm, or system message requiring no action

The **Fault History** window allows you to

- view all faults for the currently selected module.
- resolve a current fault.
- sort faults by time, type, message, who resolved the fault, or module type.
- view possible causes and resolutions for current faults.
- view the details of the faults, including when the fault occurred; the fault message; the activity at the time the fault occurred; whether or not the fault has been resolved; who resolved the fault, and how the fault was resolved.

To display **Oldest Faults**, **Previous Day's Faults**, **Next Day's Faults**, or **Today's Faults**, use the arrow buttons at the bottom left corner of the window.

 Touch this button to view faults for another module. A drop-down menu appears that allows you to select the desired module from those on the OI.

Sorting Faults

Sort the faults listed on the **Fault History** window using the buttons at the top of the window:


Time


Fault Type


Fault Message


Who Resolved


Module Type

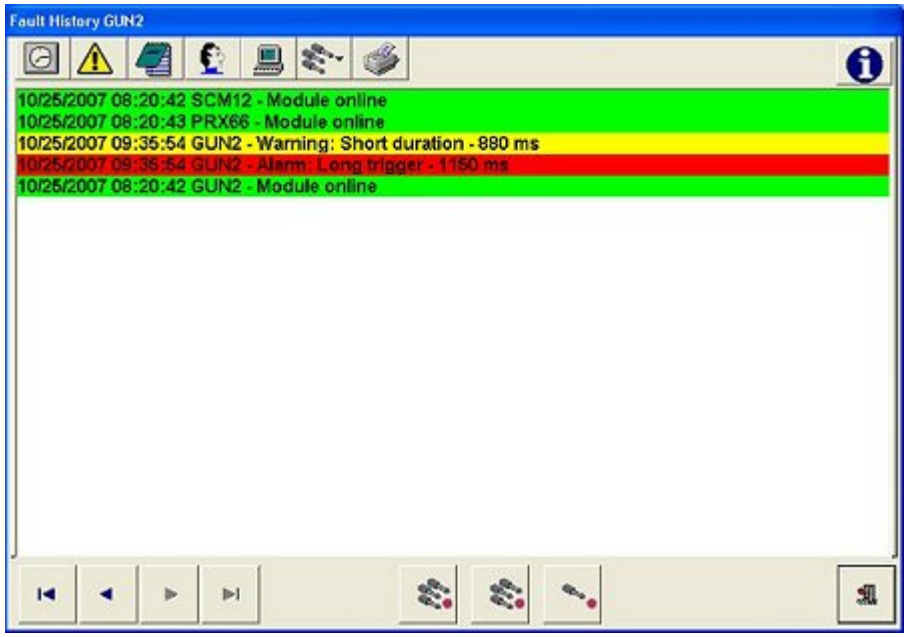
Printing Fault History

 Touch this button to print the **Fault History** window.

Resetting Faults

To reset a fault, you must first resolve (fix) the fault and then record it in the fault history. When the fault is reset the main button bar background and the affected faceplate bars change to green.

1. Select the unresolved fault on the **Fault History** window.




Touch the **Information** button to open **Fault Help** and view the troubleshooting charts for the unresolved faults. Fault Help is available in several languages.

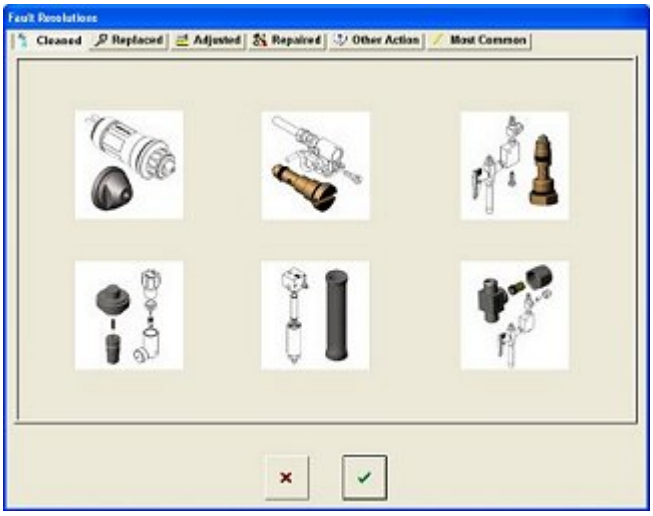
2. Fix the problem that caused the fault.
3. Touch one of the reset buttons at the bottom of the window. From left to right the button functions are:


Reset All Faults on All Modules


Reset Faults on Associated Modules


Reset Fault for This Module

The **Fault Resolutions** window appears.



4. Six category buttons appear at the top of the **Fault Resolutions** window. Select which category best describes your resolution.

   Each category has a number of images that represent typical fault resolutions. Touch an image to select it and read the description of the resolution in the taskbar. Touch the image again to unselect it. Multiple resolutions may exist for one fault.

5.  Touch **OK** to enter the resolutions you selected into the fault history.

 **Cleaned**

Cleaned Nozzle

Cleaned CO-Plate

Cleaned Fixed Orifice

Cleaned Regulator

Cleaned Main Filter

Cleaned Fixed Orifice Filter

Replaced

Installed New Gun

Installed New CO-Plate

Installed New Ball and Seat

Installed New Fixed Orifice

Installed New Regulator

Installed New Transducer

Installed New Main Filter

Installed New Fixed Orifice Filter

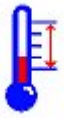
Adjusted

Adjusted gun mount

Adjusted or repaired vacuum

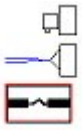
Adjusted timer

Adjusted belt tension or speed

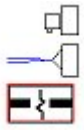


Adjusted temperature control unit (TCU)

Repaired



Repaired electrical short in gun circuit



Repaired electrical open in gun circuit

Other Action

Changed Pump Pressure

Changed Coating Material

Changed Can Size

 **Most Common**

Installed New Nozzle

Calibrated Gun

Changed Base Pressure

Cleaned Ball and Seat

Other Action

No Action Taken

NOTE: Selecting **Other Action** allows you to enter comments to that fault's history.

Viewing Fault History and Resolution

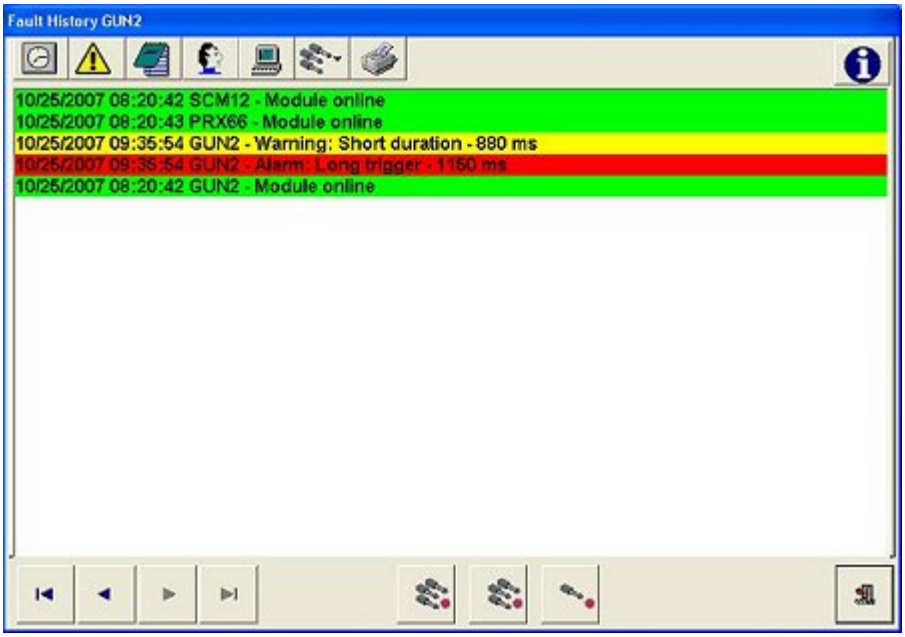
If a fault occurs more than once, you can view a report describing previous fault resolutions. You can then resolve the current fault in the same way.

NOTE: The system maintains the fault history for a user-specified period of time. Click here for instructions for changing the history data retention period.

Resolved Fault Report

To view a fault resolution report for a resolved fault:

1. Touch the fault status bar on the desired module faceplate to open the module **Fault History** window.



2. Touch the **resolved** fault that you want to view.

3.  Touch the **Information** button. The **Fault History** report window appears, listing how the fault was resolved.

 Touch the **Print** button to print the fault history report.

 Touch the **History** button if one of the resolutions selected was **Other Action Taken**. This displays any comments entered in that day's **userres** file. If there are comments for multiple faults, the **userres** file opens to the currently selected fault comments.

Unresolved Fault Report

To view a comments file from the Fault Help system:

1. Select the unresolved fault from the Fault History window.
2.  Touch the **Information** button. Fault Help opens.
3. Select your language, then select the appropriate fault message. The fault troubleshooting chart opens.
4.  Touch the **Comments** button. Windows Notepad opens and displays the comments file created for the previous occurrence of the fault, if one exists.

If no comments file exists, you can choose to create one. Use the comments file to record resolutions for specific faults.

Fault Message and Resolution Help

Touch the fault messages listed below to view the possible causes and resolutions for a fault.

 Touch this button to display a multi-lingual list of possible causes and resolutions for the currently selected fault on the **Fault History** window.

NOTE: After you fix the problem that caused the fault, you must record the resolution in the OI before the OI and modules return to their normal status.

Fault Messages

 **Alarms**	 **Warnings**
High Base Pressure	Duration Too Short
Low Base Pressure	Gun Open Response Slow
High Spray Flow	Gun Close Response Slow
Low Spray Flow	High Base Pressure
Cycle Rate Too Fast	Low Base Pressure
No Can In Pocket	High Spray Flow
No Trigger with Can In Pocket	Low Spray Flow
Long Trigger Duration	Long Trigger Duration
Short Trigger Duration	Short Trigger Duration
Gun Shorted	Electrical/Mechanical Noise
Gun Open	High Spray Count
High Temperature	High Temperature
Low Temperature	Low Temperature
High Belt Speed	High Belt Speed
Low Belt Speed	Low Belt Speed
LSM Alignment	Regulator Needs Service
Multiple Index Pulse	Low Vacuum
	Gun Not In Position
	Tank Level
	CleanSpray Gun Fault

Adding Comments to Fault Help

You can add your own comments to the Fault Help system. These comments can be used to inform other operators of the procedures used to resolve faults and maintain your system.

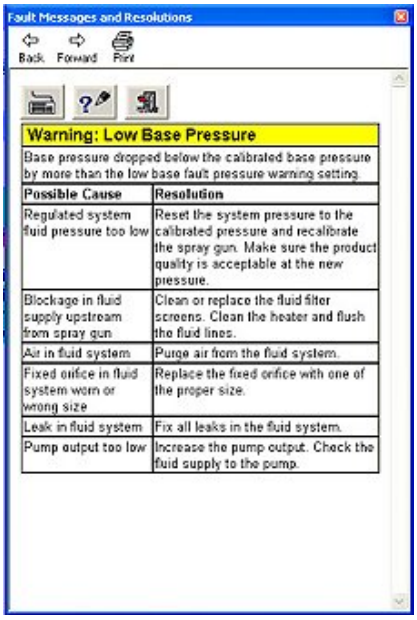
 Touching this button when an **unresolved fault** is selected opens the Fault Help window.

Touching this button when a **resolved fault** is selected causes a fault resolution report to appear.

1. Select an unresolved fault on the **Fault History** window.
2.  Touch the **Information** button. The **Fault Help** window appears.

3. Select your local language from the list. The **Fault Message List** appears.

4. Select the current fault message from the list. A **Troubleshooting Chart** listing possible causes and suggested resolutions for the fault appears.



5.  Touch the **Keyboard** button if you need to use the Windows on-screen keyboard.

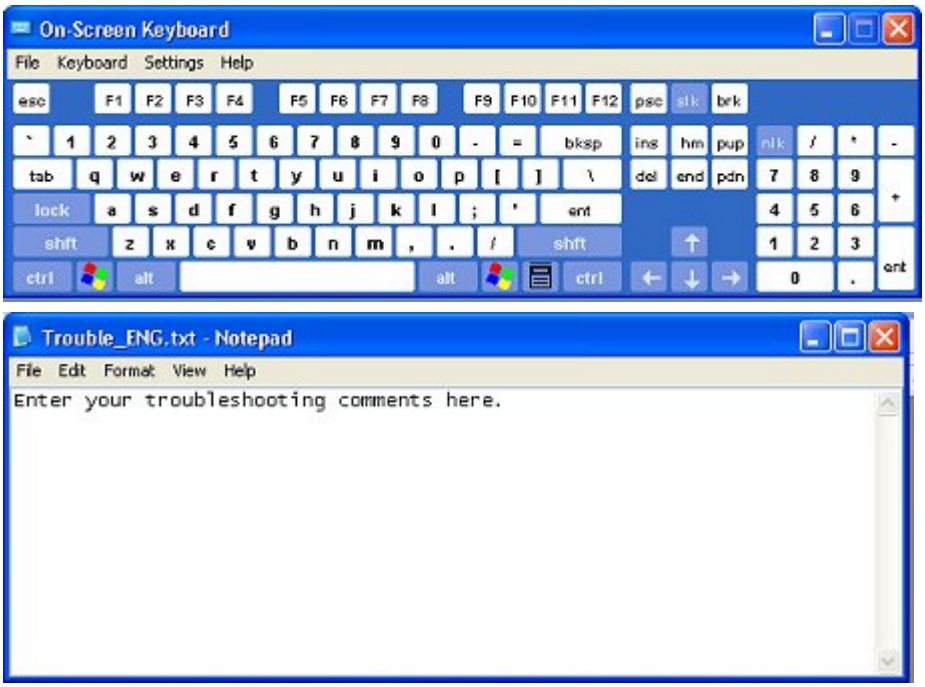
6.  Touch the **Comments** button at the top of the window. If you have not added comments to this troubleshooting procedure before, a dialog appears saying ***filename.txt*** file cannot be found and asking if you want to create a new file. Touch **Yes**.

7. Windows Notepad opens. Enter your comments.

8. On the Notepad window, select **File**>**Save** to save the file. Close Notepad and the on-screen keyboard.

The next time you touch the Comments button in the troubleshooting chart window for that fault, Notepad will open and display your comments.

Comments Example



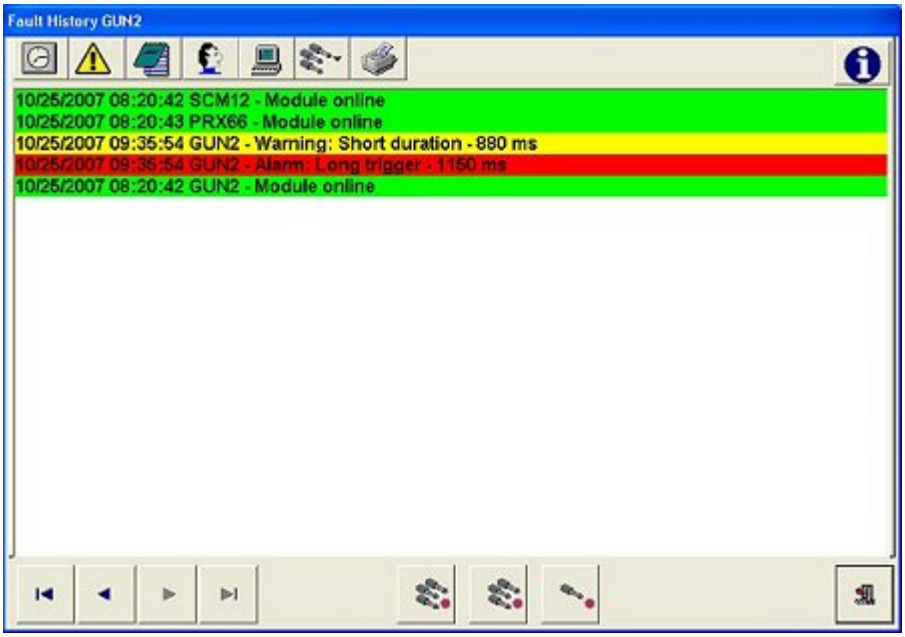
NOTES:

- Use the Notepad File>Save command to save the comments files. The files are saved to the C:\NdsnClient folder on the computer you are working on. If you move the files to a different folder, they will not open when the Comments button is touched.
- To make the comments files available to operators using other computers, you must manually copy the text files to the NdsnClient folders on those computers.
- If you use multiple languages, each language will have its own set of comments files.
- If you upgrade your iTrax software and the upgrade requires deleting the NdsnClient folder, move the comments files to a different folder first.

Adding Comments to Other Action Fault Resolution

If you choose Other Action in the Most Common fault resolution window, you can add comments to help others resolve future faults. When you add comments, the system creates a text file named **userres[ddmmyy].txt**. One **userres** file is created per day. The **userres** file saves all resolution comments from that day.

1. Select an unresolved fault on the **Fault History** window.



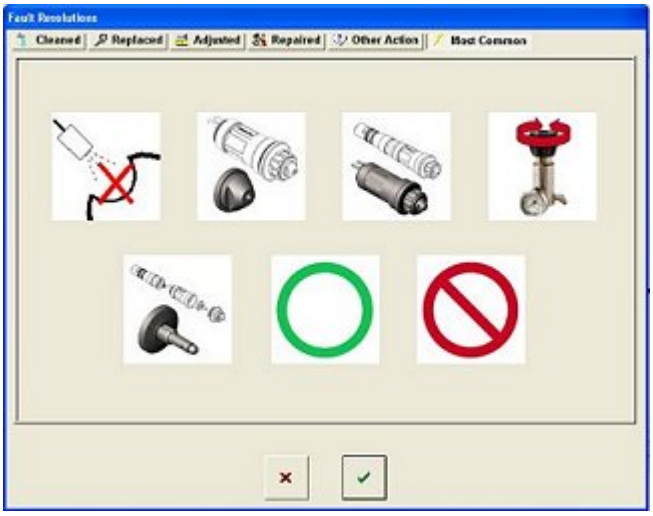
2. Touch one of the reset buttons at the bottom of the window. From left to right the button functions are:

 Reset All Faults on All Modules

 Reset Faults on Associated Modules

 Reset Fault for This Module

The **Fault Resolutions** window appears.



3. Six category buttons appear at the top of the **Fault Resolutions** window.
4. In the  **Most Common** category, touch the **Other Action** image  .
   A new window opens, showing a newly created .txt file named **userres[ddmmyy].txt**. The module name, date, and time appear in the text of the **userres** file.
5. Enter your comments in the window.

    Touch the **Keyboard** button to open the Windows keyboard if needed.
6.  Touch the **OK** button to accept your comments and save the **userres** file.

You can view the comments at any time using the **Fault History** window.

Nordson Service Settings

About Nordson Service Settings

Nordson Service personnel may modify high-level system settings that the customer cannot see. These settings are hidden from view unless a Nordson representative is logged in.

If you think that you may need to adjust any of the settings described in this section, please contact your Nordson representative.

Nordson Service personnel may change the following settings.

- Default System Language

Service Settings For Spray Monitors:

- Faceplate animation type
- Timer, spray output, and Can In Pocket signal polarity
- Fault reset mode
- Trigger mode
- Sampling mode
- Minimum spray output
- Smoothing
- Sample points
- Fault reset mode
- FailSafe mode
- Pressure transducer range
- Trigger LED function

Service Settings For Spray Controllers:

- CleanSpray gun enable
- CleanSpray gun spray frequency
- CleanSpray gun manual wash, auxiliary proximity, and tank level switch polarity
- Lacquer gun driver
- Lacquer gun can sense, index, manual wash, and inhibit switch polarity
- Lacquer gun driver configuration lockout

Service Settings For PRx modules:

- Pressure Control enable
- Pressure Control Fault Band settings
- Temperature Monitor enable
- Belt Speed Monitor enable
- Extended CIP Function setup

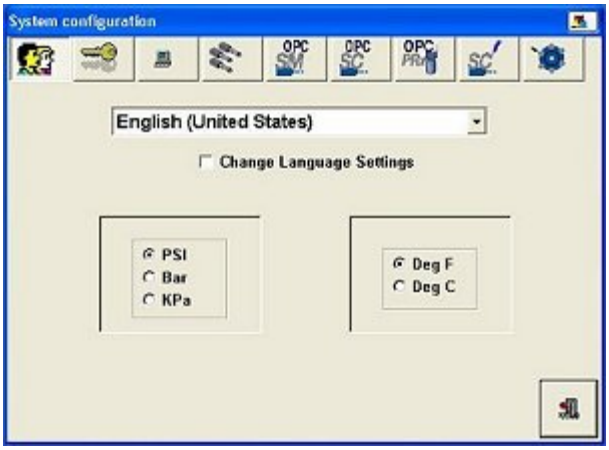
Default System Language

NOTE: Contact your Nordson representative if you need to change this setting.

Your Nordson representative can change the language displayed when no one is logged in to the Operator Interface or when the security system is disabled.

Each user has an assigned language that the system uses when the user is logged in. When a user logs out, the language reverts back to the default language.

1.  Touch the **Tools** button on the main button bar.
2.  Select **System Configuration** from the drop-down menu.
3.  Touch the **User** button at the top of the **System Configuration** window.



4. Select the appropriate language from the drop-down list.
5. Check the **Change Language** box.

   NOTE: The **Change Language** box only appears when a Nordson Service representative is logged in.

6.  Touch this button to accept the change and close the **System Configuration** window.

NOTE: Touching either of these buttons shows help in multiple languages:

 **Icon Help**, on the upper right corner of various windows. Displays definitions of icons in several languages.

 **Troubleshooting Help**, on the **Fault History** window. Displays troubleshooting procedures in several languages.

Spray Monitor Settings

Animation Type

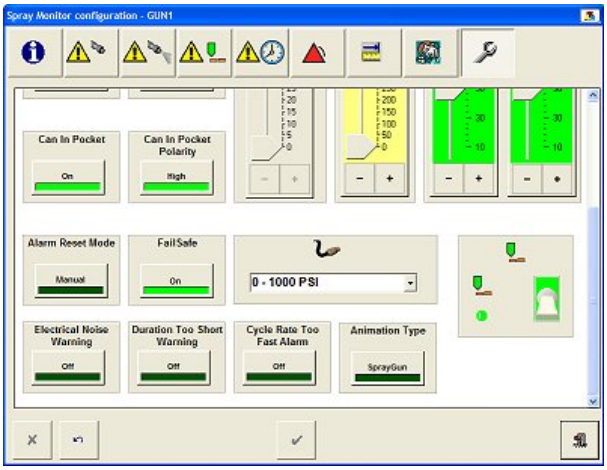
NOTE: Contact your Nordson representative if you need to change this setting.

The Animation Type function changes the animation on the Spray Monitor faceplate. Two animations are available:

- **Spray Gun:** This is the original animation used with a lacquer gun, depicting a MEG gun spraying. Use this when the Spray Monitor is used with a lacquer gun.
- **CleanSpray Gun:** This animation was added with version 4.2 of the iTrax software. It depicts cans entering and exiting a spray turret. Use this animation with CleanSpray Guns.

Default Setting: Spray Gun

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.



4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5. Touch the **Animation Type** button to set the animation to **Spray Gun** or **CleanSpray Gun**.

Can In Pocket

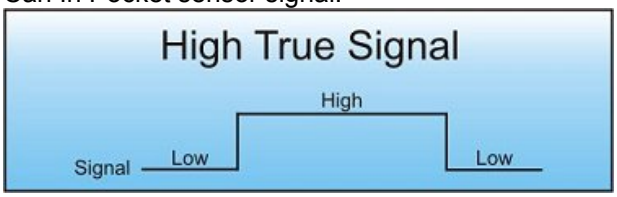
NOTE: Contact your Nordson representative if you need to change this setting.

The optional Can In Pocket feature uses a proximity sensor to verify that a can is in the spray pocket before the spray gun fires.

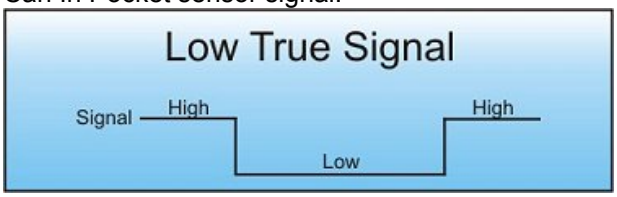
1.  Touch the information and setup bar on the appropriate spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.

3.  Select the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Enable or disable the **Can-In-Pocket** feature. The button toggles between **On** and **Off**.
5. Set the **Can-In-Pocket Polarity** to **High** or **Low**:

   High True: The spray monitor reads the Can In Pocket signal on the rising (high) edge of the Can In Pocket sensor signal.



   Low True: The spray monitor reads the Can In Pocket signal on the falling (low) edge of the Can In Pocket sensor signal.



Can In Pocket Signals

Signal 1: When a can falls in to the spray pocket, the optional Can In Pocket sensor indicates that a can is present.

Signal 2: The gun timer signals the gun to spray.

Signal 3: As the gun turns on, its pressure transducer reads the pressure inside the gun. When it registers that the pressure has dropped to the specified On Sample Point, the Spray Monitor considers the gun to be on.

Signal 4: If the system uses the optional Actual Spray Output feature, the output turns on at the On sample point.

NOTE: The default On Sample Point is 50%.

Signal 4: If the system uses the optional Actual Spray Output feature, the output turns on at the On sample point.

NOTE: The default On Sample Point is 50%.

Signal 5: After the gun has been on for the required period of time, the timer signals the gun to turn off.

Signal 6: As the gun turns off, its pressure transducer reads the pressure inside the gun. When it registers that the pressure has risen to the specified Off Sample Point, the Spray Monitor considers the gun to be off.

Signal 7: If the system uses the optional Actual Spray Output feature, the output turns off at the Off sample point.

NOTE: The default Off Sample Point is 50%.

Signal 8: As the can leaves the spray pocket, the optional Can In Pocket sensor indicates that the can has left the spray pocket.

Cycle Rate Too Fast Alarm

NOTE: Contact your Nordson representative if you need to change this setting.

The Cycle Rate Too Fast alarm is built into the Spray Monitor modules. The alarm is generated if the Smoothing setting is too long, preventing the capture of a base pressure reading between gun firing.

- If the Spray Monitor is used with a CleanSpray gun, this alarm is not needed as the cycle rate is far slower than that of the lacquer gun, and may generate false alarms. If this is a problem then this alarm should be turned Off.
- If the Spray Monitor is used with a MEG, A10A, or A20A lacquer gun, this alarm should be turned On, as it will indicate that the Smoothing factor is incorrect and should be changed to obtain good Base Pressure readings.

Default Setting: On

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Scroll down to the lower half of the window.
5. Touch the **Cycle Rate Too Fast Alarm** button to turn the Alarm **On** or **Off.**

Duration Too Short Warning

NOTE: Contact your Nordson representative if you need to change this setting.

The Duration Too Short warning is built into the Spray Monitor modules. The warning is generated if the Smoothing setting is too long for the current trigger duration setting, preventing the capture of fire pressure readings. For example, if the smoothing is set to 50 msec and the trigger duration is 50msec or less, then the Duration Too Short warning will be generated since the gun will not be on for long enough to obtain a fire pressure reading.

- If the Spray Monitor is used with a CleanSpray gun, this warning should be disabled, as the spray durations are very short.
- If the Spray Monitor is used with a MEG, A10A, or A20A lacquer gun, this warning should be turned On, as electrical noise could affect monitoring of base and fire pressures and hide problems leading to rejects.

Default Setting: On

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5. Touch the **Duration Too Short** button to turn the warning **On** or **Off**.

Electrical Noise Warning

NOTE: Contact your Nordson representative if you need to change this setting.

The Electrical Noise Warning is built into the Spray Monitor modules. The warning is generated if electrical noise in the pressure transducer or gun wiring is affecting the sampling of base and fire pressures.

- If the Spray Monitor is used with a CleanSpray gun, this warning may generate false alarms. If this is a problem then this warning should be turned Off.
- If the Spray Monitor is used with a MEG, A10A, or A20A lacquer gun, this warning should be turned On, as electrical noise could affect monitoring of base and fire pressures and hide problems leading to rejects.

Default Setting: On

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5. Touch the **Electrical Noise Warning** button to turn the warning **On** or **Off**.

FailSafe Mode

NOTE: Contact your Nordson representative if you need to change this setting.

The FailSafe mode allows you to set the normal operating state of the fault relays. Setting the relays to Off indicates that the relay coils are deenergized during operation and will energize when a fault occurs. Setting the relays to On indicates that the relay coils are energized during operation and will deenergize when a fault occurs.

Default Setting: On

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5. Touch the **FailSafe** button to change the setting to **Off** or **On.**

   OFF - Relays are normally de-energized. Relay coil energizes when a fault occurs.

   ON - Relays are normally energized. Relay coil de-energizes when a fault occurs. **This is the default setting.**

Fault Reset Mode

NOTE: Contact your Nordson representative if you need to change this setting.

A fault changes the state of the Spray Monitor relays and LEDs and turns on the OI fault indicators and fault messages. The alarm reset mode feature allows you to determine how alarms are reset (manually or automatically).

Manual mode: You must correct the alarm condition and reset the alarm to reset the relays and LEDs and turn off the OI alarm indicators.

Automatic mode: The relays are automatically reset after 5 milliseconds. The LEDs, OI indicators, and alarm status messages stay on until the alarm condition is corrected and the alarm is manually cleared.

CAUTION: If you set the alarm reset mode to **Automatic**, use the Spray Monitor solid-state relay option. Refer to Spray Monitor manual for more information.

NOTE: If a Low Pressure Alarm occurs and the alarm reset mode is **Automatic**, the relay is activated (closed) and remains closed until the base pressure increases above the alarm setpoint.

Default Setting: Manual

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5. Touch the **Alarm Reset Mode** button to set the mode to **Manual** or **Automatic**.

Minimum Spray Output

NOTE: Contact your Nordson representative if you need to change this setting.

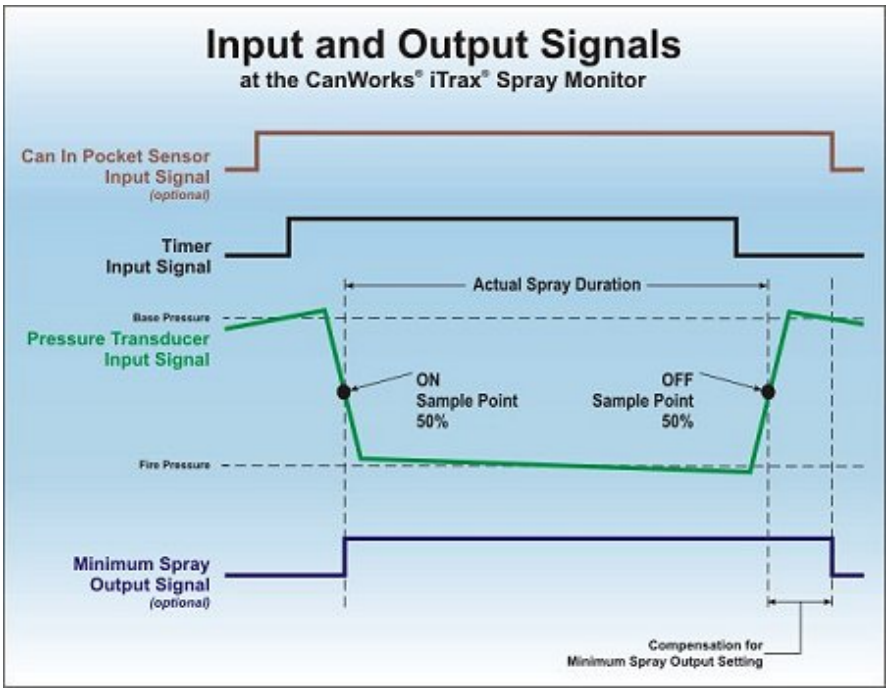
The optional Actual Spray Output feature provides an external signal that represents the actual spray duration based on the material flow analysis. To use the Minimum Spray Output feature, you must have the PLC/timer wired to the Spray Monitor's OUTput terminals. Refer to your Spray Monitor manual for more information.

The Minimum Spray Output setting allows the iTrax system to compensate for a PLC that has a scan time that is slower than the actual spray duration. The number that you set as the Minimum Spray Output is the minimum number of milliseconds that the Spray Monitor applies to every trigger signal. If the gun is open longer than the Minimum Spray Output setting, the actual spray duration is sent to the PLC/timer.

NOTE: The default setting is to track the actual spray duration.

- To monitor the Actual Spray Output, leave the **Min. Spray Output** button set to **Off**.
- To set a Minimum Spray Output, set the **Min. Spray Output** button to **On** and enter a minimum value using the slider.

Example: If you set the Minimum Spray Output to 25 milliseconds, but the gun's actual spray duration is only 20 milliseconds, the spray monitor will send a signal to the PLC/timer indicating the gun was open for 25 milliseconds.



1. Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2. Select **Spray Monitor Configuration** from the drop-down menu.
3. Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Touch the **Min. Spray Output On/Off** button to turn this feature **Off** or **On**.
5. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **Minimum Spray Output** setting.

Pressure Transducer Range

NOTE: Contact your Nordson representative if you need to change this setting.

Three pressure transducers are available. Each pressure transducer includes a matched preamplifier. The pressure transducer/amplifier assembly part number is stamped on the amplifier.

NOTE: If you change the transducer range, you must calibrate the gun.

Transducer Ranges:

- 0–600 psi (0–41 bar**/**0–4136.8 KPa) (Nordson P/N 771220)
- 0–1000 psi (0–69 bar**/**0–6894.7 KPa) (Nordson P/N 1602880)
- 300–1500 psi (20–103 bar**/**2068.4–10342.1 KPa) (Nordson P/N 333055)

1. Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2. Select **Spray Monitor Configuration** from the drop-down menu.

3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5.  Select the appropriate transducer from the drop-down list.

Trigger Mode

NOTE: Contact your Nordson representative if you need to change this setting.

The Trigger Mode tells the OI how the gun will be turning on and off. The type of can you are coating usually determines this setting.

Intermittent: Use when the gun will be cycling on and off at a rapid, regular rate. (Typically used when coating two-piece cans.)

Continuous: Use when the gun will be spraying for an extended period of time. (Typically used when coating lids or the inside stripe of three-piece cans.)

NOTE: You cannot change the trigger mode setting while the system is operating. If you want to change the trigger mode, shut down the system.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Select the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Touch the **Trigger Mode** button and set the mode to **Intermittent** or **Continuous**.

Trigger Polarity

NOTE: Contact your Nordson representative if you need to change this setting.

The Trigger Signal Polarity tells the OI which type of timer or trigger signal to expect from the timer or gun driver:

High True: The spray gun actuates on the rising (high) edge of the timer signal.

Low True: The spray gun actuates on the falling (low) edge of the timer signal.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Select the **Service** button at the top of the **Spray Monitor Configuration** window.

4. Touch the **Trigger Polarity** button and set the polarity to **High** or **Low**.

Trigger LED Function

NOTE: Contact your Nordson representative if you need to change this setting.

The bicolor TRIGGER LED on the Spray Monitor may indicate either of two signals:

Green: Timer signal is being received

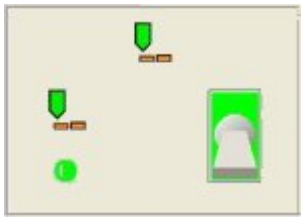
Yellow: Can In Pocket sensor signal is being received.

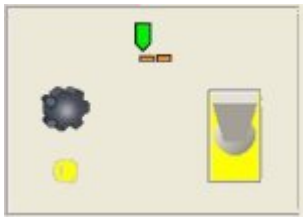
NOTE: Can In Pocket is an optional feature that requires:

- installing a sensor to detect when a can is in the spray pocket.
- enabling the Can-In-Pocket feature and setting the sensor polarity by your Nordson representative.

Default Setting: Green (Timer)

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Use the scroll bar at the right-hand side of the window to scroll down to the lower half of the window.
5.  Touch the trigger switch to set the TRIGGER LED to the desired function. The switch will change to reflect the selected function.


Timer Function (Default)


Can-In-Pocket Function

Sampling Mode

NOTE: Contact your Nordson representative if you need to change this setting.

The Sampling Mode is the method that the Spray Monitor uses to compare average actual gun pressures against calibrated pressures and flow fault bands. The Sampling Mode plots the actual gun pressures each time the gun sprays. The Sampling Mode works with the Trigger Mode and the Smoothing setting to allow the Spray Monitor to account for fluctuations in coating material viscosity.

All Samples: The Spray Monitor takes as many samples of the actual pressures as it can in the time that a gun is spraying. The number of samples taken is dependent on the Smoothing setting. It then compares the average of those samples to the calibrated pressures. **All Samples** is typically used with the **Continuous** Triggering Mode.

Single Samples: The Spray Monitor takes one sample of the actual pressure while the gun is spraying and compares the sample with the calibrated pressure. The Smoothing setting determines how long after the gun starts spraying that the sample is taken. **Single Samples** is typically used with the **Intermittent** Triggering Mode.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.

 Select **Spray Monitor Configuration** from the drop-down menu.

2.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Touch the **All Samples/Single Samples** button in the **Sampling** box to select **All Samples** or **Single Samples**.

Sample Points

NOTE: Contact your Nordson representative if you need to change this setting.

A Sample Point is a percentage of the calibrated, expected pressure drop (delta pressure) that is used to determine when a gun is on or off.

When a spray gun turns on, it takes several milliseconds for the base pressure to drop to the spray pressure. The spray pressure is the lowest pressure that is read inside the gun while it is spraying. The Sample Point determines the pressure at which the iTrax system considers the spray gun to be on, even though the pressure has not dropped to the spray pressure.

Example:

Calibrated Pressures

 **Base** 800

 **Fire** 750

 **Delta** 50

With the Sample Point is set to **On 50%** and **Off 50%**, if the base pressure drops to 775 psi (which is 25 psi (or 50%) less than the expected delta pressure of 50 psi), the OI considers the gun to be on (spraying). When the spray pressure increases to 775 psi, the OI considers the gun to be off.

Default Settings:

On: 50%

Off: 50%

CAUTION: Adjusting the Sample Point may adversely affect system operation. Do not adjust the Sample Point without the assistance of a Nordson service representative.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Drag the **Sample Point** slider or touch the **–** and **+** buttons to increase or decrease the Sample Point settings as appropriate.

Smoothing

NOTE: Contact your Nordson representative if you need to change this setting.

The Smoothing setting is a time setting (in milliseconds), that the OI uses to determine when or how often to sample the actual pressure in order to arrive at an average pressure. The Smoothing setting applies to both the Fire Pressure and the Base Pressure.

Increasing the Smoothing setting may help to reduce pressure variations or electrical noise from the pressure transducer.

NOTE: If the Smoothing is set for too long, it can prevent the OI from obtaining the samples required for a pressure reading, and can generate a Duration Too Short warning (Fire Pressure) or a Cycle Rate Too Fast Alarm (Base Pressure). If the Smoothing setting is greater than one-half the actual spray duration or spray off time, the Duration Too Short warning or the Cycle Rate Too Fast alarm will be issued.

Default Setting: 5 ms (milliseconds)

For example, the default setting of 5 ms gives different results depending on which sampling mode is selected.

All Samples: An actual pressure sample is taken once every five milliseconds until the gun stops spraying.

Single Samples: A single actual pressure sample is taken 5 milliseconds after the gun starts spraying.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Touch the **Service** button at the top of the **Spray Monitor Configuration** window.

   CAUTION: The **Smoothing** value must be less than the sum of the gun open time and the spray duration, and no more than one-half of the actual spray duration.
4. Drag the slider or touch the **–** and **+** buttons to increase or decrease the **Smoothing** setting.

Spray Output Polarity

NOTE: Contact your Nordson representative if you need to change this setting.

This setting is used with the optional Actual Spray Output. The Actual Spray Output feature allows you to compensate for a PLC or external timer that has a scan time slower than the actual spray time. To use this feature, you must set a Minimum Spray Output, which is the minimum number of milliseconds that the spray monitor will apply to the spray output signal for every flow analysis. The Actual Spray Output feature can be used for external closed loop control of the real spray duration or as another indication that flow analysis has occurred. Refer to the Spray Monitor manual and talk to your Nordson representative for more information on this feature.

If connecting a PLC or external timer to the Spray Monitor OUT terminals, set the desired signal polarity type:

High True: The spray monitor reads the spray output signal on the rising (high) edge of the PLC or timer signal.

Low True: The spray monitor reads the spray output signal on the falling (low) edge of the PLC or timer signal.

1.  Touch the information and setup bar on the appropriate Spray Monitor faceplate.
2.  Select **Spray Monitor Configuration** from the drop-down menu.
3.  Select the **Service** button at the top of the **Spray Monitor Configuration** window.
4. Touch the **Spray Output Polarity** button to set polarity to **High** or **Low**.

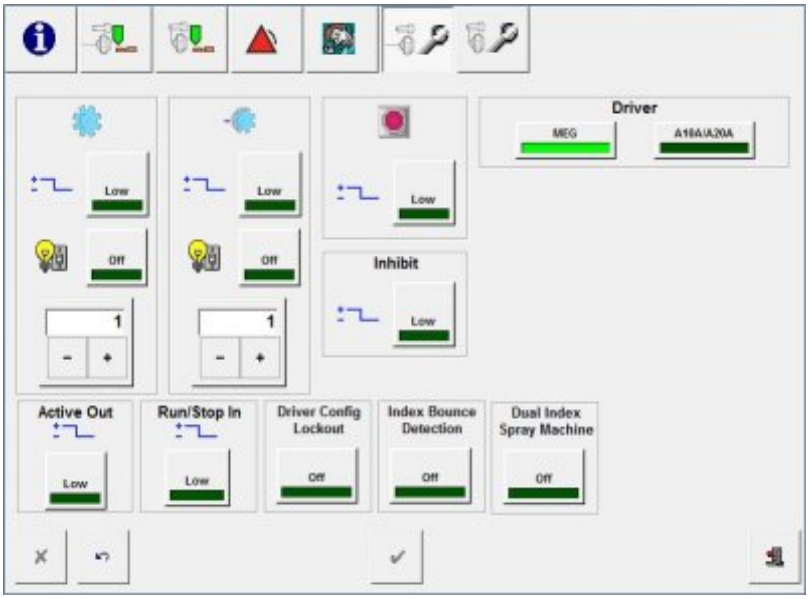
Spray Controller Settings

Lacquer Gun - Driver

NOTE: Contact your Nordson representative if you need to change this setting.

Different lacquer guns require different driver outputs. Choose the type of spray gun the Spray Controller is triggering.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button at the top of the **Spray Controller Configuration** window.

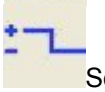


4. Select the appropriate spray gun **DRIVER: MEG** or **A10A/A20A**.

Lacquer Gun - Manual Spray

NOTE: Contact your Nordson representative if you need to change this setting.

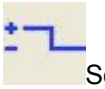
Set the polarity of the Manual Spray switch.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4. 
   
   Set the polarity of the **Manual Spray** switch to **Low** or **High**.

Lacquer Gun - Inhibit

NOTE: Contact your Nordson representative if you need to change this setting.

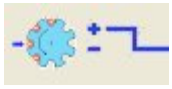
Set the polarity of the Inhibit switch, which senses when the safety cage around the spray machine is open.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4. **INHIBIT**
   
   Set the polarity of the **Inhibit Switch** to **Low** or **High**.

Lacquer Gun - Can Sense

NOTE: Contact your Nordson representative if you need to change this setting.

The Can Sense proximity switch senses when a can is in a particular pocket on the spray machine turret. Set the polarity of the Can Sense Proximity Sensor and the number of the Can Sense Pocket.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4.  Touch the **Can Sense Proximity Sensor** button to turn the sensor **On** or **Off.**
5.  Set the polarity of the **Can Sense Proximity Sensor** to **Low** or **High**.
6. 

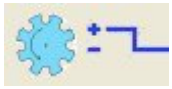
Use the **+** and – buttons to set the number of the **Can Sense Pocket**.

Lacquer Gun - Index

NOTE: Contact your Nordson representative if you need to change this setting.

If the spray machine is configured so that the Can Sense switch cannot be placed where it can sense a can when it is in front of the spray gun, the Index switch can be used to detect when the turret has rotated so that a can is in front of the spray gun.

Set the polarity of the Index Proximity Sensor and the number of the Spray Pocket.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4.  Touch the **Index Proximity Sensor** button to turn the sensor **On** or **Off.**
5.  Set the polarity of the **Index Proximity Sensor** to **Low** or **High**.
6. 

Use the **+** and **-** buttons to set the number of the **Spray Pocket**.

NOTE: If the Index Proximity Sensor is enabled, then the LSM Alignment Alarm is enabled.

Lacquer Gun - Active Out

NOTE: Contact your Nordson representative if you need to change this setting.

Set the polarity of the Active Out signal. The Active Out signal is true for the duration of the delay and spray time. It is used to by external line controls to determine when the Spray Controller is in the timing process.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4. **ACTIVE OUT**

    Set the polarity of the **Active Out** signal to **Low** or **High**.

Lacquer Gun - Driver Configuration Lockout

NOTE: Only Nordson service personnel can access this setting. Contact your Nordson representative if you need to change this setting.

The Spray Controller driver board has two potentiometers that control Peak and Hold current. These potentiometers are set at the factory. They can be locked out through the iTrax OI so that the Peak and Hold settings cannot be changed unless the lockout is disabled.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4. Touch the **Driver Config Lockout** button to turn the lockout **On** or **Off**.

Lacquer Gun - Index Bounce Detection

NOTE: Contact your Nordson representative if you need to change this setting.

When Index Bounce Detection is turned on, multiple index signals for one CIP signal will generate an Index Bounce Alarm. This condition can be caused by machine backlash or can jamming, which is more common with larger cans.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button.
4. Touch the **Index Bounce Detection** button to turn detection **On** or **Off**.

Lacquer Gun - Run/Stop Input

NOTE: Contact your Nordson representative if you need to change this setting.

Set the polarity of the Run/Stop Input signal. The Run/Stop Input signal is true when the spray machine is in operation. It is generated by external line controls and is used by the iTrax system to know that the spray machine is ready to spray and prevents recipe changes when the spray machine is running.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button at the top of the **Spray Controller Configuration** window.
4. **Run/Stop In**

    Set the polarity of the **Run/Stop In** signal to **Low** or **High**.

Lacquer Gun - Dual Index Spray Machine

NOTE: Contact your Nordson representative if you need to change this setting.

Turn on Dual Indexing if the spray machine indexes and coats two cans at a time. This feature should only be turned on if the Spray Controllers have version 6.8 or above firmware. Otherwise, leave it turned off.

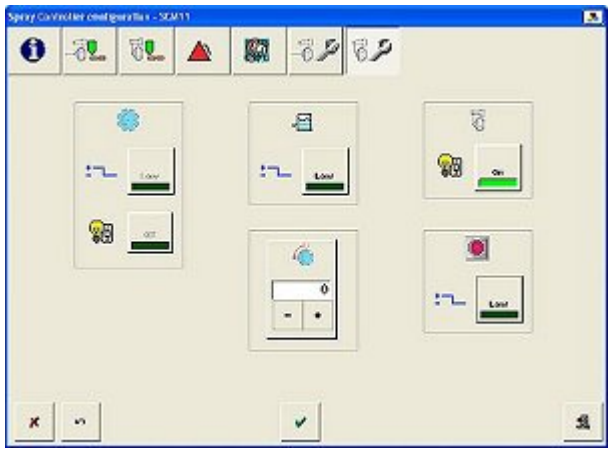
1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **Lacquer Gun Service** button at the top of the **Spray Controller Configuration** window.
4. Touch the **Dual Index Spray Machine** button to turn the feature **On** or **Off**.

CleanSpray Gun - Enable or Disable

NOTE: Contact your Nordson representative if you need to change this setting.

Use this procedure to enable or disable the CleanSpray gun.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **CleanSpray Gun Service** button at the top of the **Spray Controller Configuration** window.



4.  Turn the CleanSpray Gun **On** or **Off**.

CleanSpray Gun - Spray Frequency

NOTE: Contact your Nordson representative if you need to change this setting.

The triggering of the CleanSpray gun is determined by the number of cans sprayed.

NOTE: If there is a can in the pocket in front of the lacquer spray gun, the CleanSpray gun will not be triggered.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **CleanSpray Gun Service** button at the top of the **Spray Controller Configuration** window.
4.  Use the + and – buttons to set the **spray frequency** (spray every "N" cans) of the CleanSpray gun. The setting is the number of cans coated after which the CleanSpray gun sprays.

Setting CleanSpray Gun Manual Wash Switch Polarity

NOTE: Contact your Nordson representative if you need to change this setting.

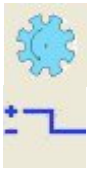
Set the polarity of the Manual Wash switch.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select this button at the top of the **Spray Controller Configuration** window.
4.  Set the polarity of the **Manual Wash** switch to **Low** or **High**.

CleanSpray Gun - Auxiliary Proximity Sensor

NOTE: Contact your Nordson representative if you need to change this setting.

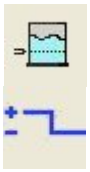
If used, set the polarity of the auxiliary proximity switch.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **CleanSpray Gun Service** button at the top of the **Spray Controller Configuration** window.
4.  Set the polarity of the **Auxiliary Proximity Sensor** to **Low** or **High**.

CleanSpray Gun - Tank Switch

NOTE: Contact your Nordson representative if you need to change this setting.

If used, set the polarity of the Tank Level Switch or Sensor.

1.  Touch the information and setup bar on the appropriate Spray Controller faceplate.
2.  Select **Spray Controller Configuration** from the drop-down menu.
3.  Select the **CleanSpray Gun Service** button at the top of the **Spray Controller Configuration** window.
4.  Set the polarity of the **Tank Level Switch** to **Low** or **High**.

PRx Module Settings

Enabling or Disabling Spin Belt Speed Monitoring and Control

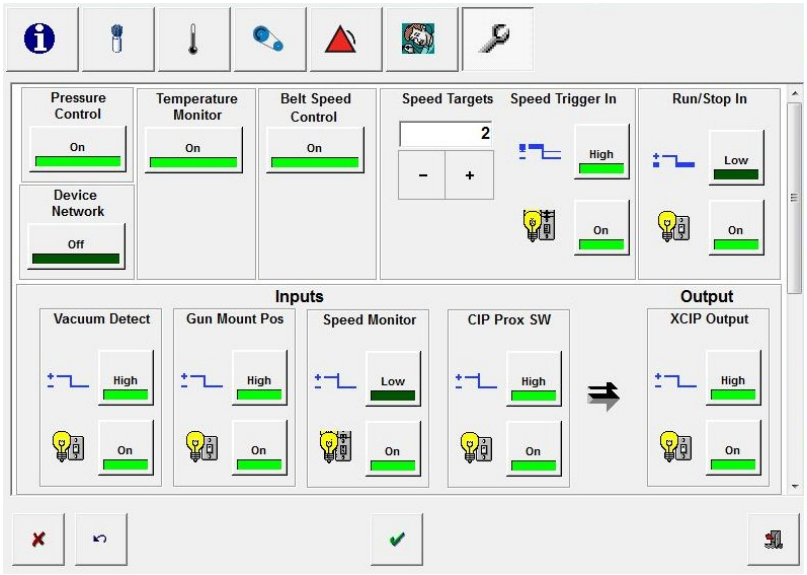
The Spin Belt Speed Monitor function monitors the revolutions (RPM) of one of the spin belt pulleys. It requires installing a proximity switch to detect the pulley revolutions.

The Spin Belt Speed Control function outputs the speed signal to a customer control device. To use the control function, an optional Anybus-S Profibus or Ethernet/IP module must be installed on the PRx module.

NOTE: Contact your Nordson representative if you need to change this setting.

Use this procedure to enable or disable the Spin Belt Speed Monitor and Control functions.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service** button at the top of the **PRx Configuration** window.



4. Touch the **Belt Speed Monitor** button to turn monitoring On or Off.
5. Touch the **Belt Speed Control** button to turn control On or Off.
6. Enable or Disable the **Run/Stop** input and set the signal polarity. This signal from the can spinner will prevent false belt speed faults.

 **Polarity Low/High**

 **Enable/Disable**

Can Chuck Speed Monitoring

Can Chuck Speed Monitoring allows the operator to view the speed of each chuck as the can is being sprayed. This feature is discussed more fully in the iTrax manual.

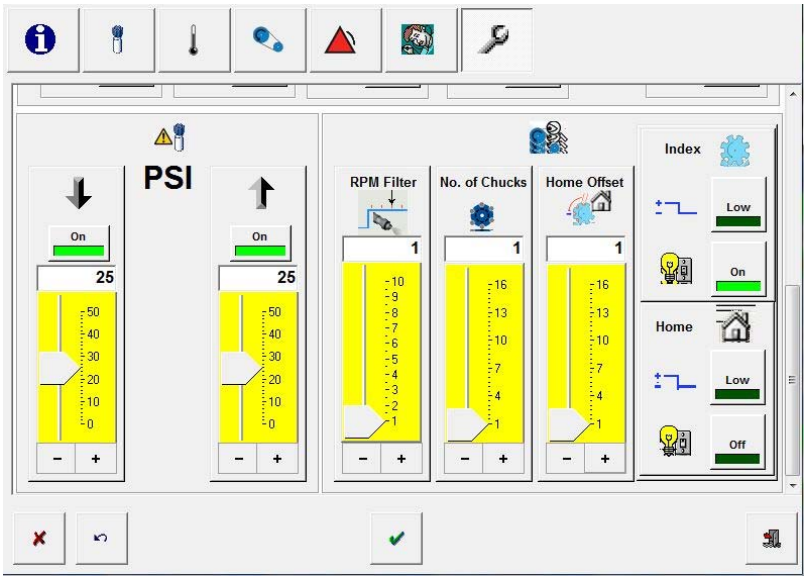
NOTE: Contact your Nordson representative if you need to change this setting.

Use this procedure to configure the Can Chuck Monitoring feature:

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service** .
4. Enter the number of **Speed Targets** on the back on the chuck.
5. Turn on the **Speed Trigger Input** and set the signal polarity.

    **Polarity Low/High**

    **On/Off**
6. Scroll down to the lower portion of the configuration screen.



7. Enter a value for the **RPM Filter**. This prevents the chuck speed from being read until the chuck is up to speed. For example, if the spray duration is 100 milliseconds, and the system sees 10 speed targets during that time, a setting of 5 will cause the system to wait until the 5th target is sensed before reading the chuck speed. For a better explanation, see this diagram.

This will display one chuck at a time on the **PRx Speed Details** screen. To display all chucks on the spinner turret, do the following:

1. Turn on the Index function and set the signal polarity. The index sensor tracks the rotation of the turret.

    **Polarity Low/High**

    **On/Off**

2. Turn on the **Home** function and set the signal polarity. The home sensor keeps track of the home position and resets the home once each revolution of the turret.

    **Polarity Low/High**

    **On/Off**

3. Set the number of **Chucks** on the spinner turret.
4. Set the **Home Offset** position. This is the chuck number that is being sprayed when the Home sensor is triggered. For a better explanation, see this diagram.

Device Network On/Off

NOTE: Contact your Nordson representative if you need to change this setting.

The Spin Belt Speed Control feature requires the installation of an Anybus-S Profibus or Ethernet/IP module on the PRx module. The Anybus module outputs both the belt speed setpoint and the actual speed signal to a customer control device.

Use this procedure to enable the Anybus module network for each PRx module.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service** button.
4. Touch the **Device Network** button to turn the Anybus module network **On** or **Off**.

Refer to Spin Belt Speed Monitoring and Control to enable or disable these functions.

Extended CIP Function Setup

The Extended Can-In-Pocket (CIP) output feature adds vacuum detect, gun mount position, and belt spin detect to the standard CIP detection function. Each additional function requires a proximity switch or other sensor connected to the PRx Module.

The PRx module combines the signals from these sensors and sends a single CIP signal to the Spray Monitor. If one of the sensor signals is not correct, then the Spray Monitor does not receive the CIP signal and generates a CIP fault. The iTrax system identifies the sensor causing the fault.

NOTE: Contact your Nordson representative if you need to change this setting.

Use this procedure to set up the XCIP functions.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service** button.
4. Enable **XCIP Output** and set the desired output polarity. The buttons toggle **On** and **Off** and **Low** and **High**.

   
5. Enable the desired functions and set their polarity:
   Vacuum Detect, **Gun Mount Pos**, **CIP Prox SW**, **Belt Spin Detect**.

Enabling or Disabling Pressure Control

The Pressure Control feature controls the fluid base pressure for each spray gun. It requires replacing the standard manually controlled regulator and gauge with a special electro-pneumatic controlled regulator.

NOTE: Contact your Nordson representative if you need to change this setting.

Use this procedure to enable or disable the Pressure Control feature.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service**.
4. Touch the **Pressure Control** button to turn the function **On** or **Off**.

Setting Pressure Control Fault Bands

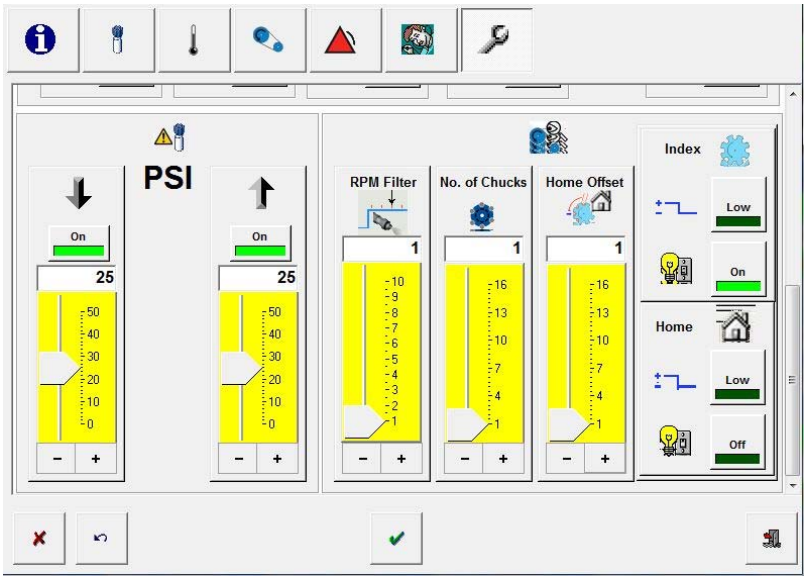
NOTE: Contact your Nordson representative if you need to change this setting.

If you have enabled the Pressure Control function, you can set a pressure fault band ranging from 0 to 50 PSI above or below the base pressure setting. An alarm will be generated if the pressure goes out of range.

Default Setting

Low Pressure	High Pressure
Default Warning Value	Default Warning Value
–25	+25

1. Touch the information and setup bar on the appropriate PRx Module faceplate.
2. Select **PRx Configuration** from the drop-down menu.
3. Select the **Service** button.
4. Scroll down to display the fault band settings on the **PRx Configuration** window.



5. Drag the slider or touch the **–** and **+** buttons to increase or decrease the low and high pressure fault limits.

Enabling or Disabling Temperature Monitoring

The Temperature Monitor feature monitors the coating temperature at each spray gun. It requires replacing the standard pressure transducer and preamp with a pressure transducer/RTD and preamp.

NOTE: Only Nordson service personnel can access this setting. Contact your Nordson representative if you need to change this setting.

Use this procedure to enable or disable the Temperature Monitoring feature.

1.  Touch the information and setup bar on the appropriate PRx Module faceplate.
2.  Select **PRx Configuration** from the drop-down menu.
3.  Select the **Service** button at the top of the **PRx Configuration** window.
4. Touch the **Temperature Monitor** button to turn the function **On** or **Off**.

Reference

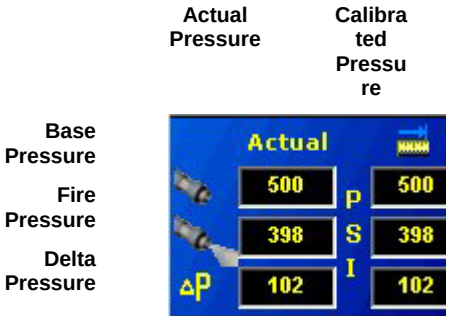
Actual Temperature	This is the actual fluid temperature measured at the spray gun. **NOTE:** This function must be enabled by your Nordson Service Representative and requires replacing the standard pressure transducer with one that includes an RTD.
Base Pressure Setpoint	The pressure shown on the PRx Module faceplate is the base pressure setpoint, set during PRx Module configuration. The iTrax system uses a PID feedback loop to maintain the setpoint pressure by comparing the base pressure at the spray gun to the base pressure at the pressure controller and adding a correction factor to the base pressure setpoint signal sent to the pressure controller. **NOTE:** This function must be enabled by your Nordson Service Representative and requires adding a Nordson Pressure Controller to the system.
Belt Speed	This is the actual spin belt pulley speed, in RPM, as measured by the sensor detecting spin belt pulley revolutions. **NOTE:** This function must be enabled by your Nordson Service Representative and requires adding a belt speed sensor to the system.
Belt Speed Setpoint	This is the belt speed setpoint from the PRx Belt Speed Configuration screen. The spin belt speed setpoint and the actual belt speed signals are sent to a customer-supplied PLC or other device that controls the drive pulley motor speed. **NOTE:** This function must be enabled by your Nordson Service Representative and requires adding an Anybus-S Profibus or Ethernet/IP module to the PRx module. The Speed Control must be enabled in the iTrax OI by your Nordson service representative.
Can In Pocket	The Can-In-Pocket (CIP) feature uses a proximity sensor to verify that a can has fallen into the spray pocket before the spray gun fires. CIP allows the spray monitor to verify that a timer signal is received for every can that is detected. (This feature must be used with a proximity sensor and the new iTrax Spray Monitor module, part 1065268) When CIP is used, the Spray Monitor must receive both a timer and CIP signal each time a can is detected and a gun fires. If either the CIP or timer signal is not received, the Operator Interface displays a fault. One CIP proximity sensor is mounted in each spray pocket and is wired to the CIP inputs on the left side of the Spray Monitor module. **NOTE:** This function must be enabled by your Nordson Service Representative.
CleanSpray Gun Timing	**Delay:** Time to wait, in milliseconds, after the lacquer gun stops spraying before triggering the CleanSpray gun. When during line operation the CleanSpray gun is triggered is determined by the Spray Every N Can setting (Nordson Service Setting). **Spray:** Length of time the gun sprays, in milliseconds.

Display System Faults	 This button opens the Fault History window, which shows which faults have occurred, when they occurred, and how they were resolved. **NOTE:** This button opens the fault history window for the first Spray Monitor that has a fault. If no faults are active, this button opens the fault history window for the first Spray Monitor on the network.
Display Help	 Touching this button causes a drop-down menu to appear. These selections are available on the drop-down menu:  **Display Help** Opens the online help system. Touching this selection opens the help system at the beginning.  **Connect to Nordson** If the PC is connected to the Internet (and the operator has Internet access permissions assigned to them), this button opens the Nordson Corporation http://emanuals.nordson.com website, where you can search, download, or print manuals for Nordson equipment.  **About the Operator Interface** Shows information about the iTrax Operator Interface, including software version and copyright date.
Exit Operator Interface	 This button closes the iTrax OI. When the OI is closed, the coating system and Spray Monitor, Spray Controller, and PRx Modules continue to function, but the OI does not notify you when a fault occurs. **NOTE:** You must have the appropriate permission to exit the OI.
Main Screen Scroll Bars	This scroll bar appears whenever there are more faceplates than can be displayed in the Main screen. To scroll the screen, touch the scroll bar and drag to view the hidden portion of the screen, or touch the arrows at the top and bottom of the scroll bar.

Mg Weight Monitoring	This is an optional feature that can be enabled if desired. It requires no additional hardware. ***This feature can only be used for one-gun coating systems, and should be used for reference only.*** When enabled, two fields are added to the Spray Monitor faceplate: **Target Weight** in the calibrated column **Actual Weight** in the actual column  The **Target Weight** is obtained by running a calibration, weighing the coated cans, and calculating the average coating weight. The **Actual Weight** is calculated during production, using a software algorithm and the calibration data, target weight, and the actual spray system performance data. **NOTE:** This function must be enabled by your Nordson Service Representative.
Minimized Faceplates	Faceplates are minimized when they are not included in a selected group.
Module Names	The Spray Monitor, Spray Controller, and PRx Modules can be given names that relate to their function or location and appear on the faceplate label bars. Although two or more modules can have the same name, each should be given a unique name to avoid confusion. Names are entered on the module configuration screen. **NOTE:** The assigned name only appears in the OI. The OPC server and data logger always recognize the spray monitors by their default names (GUN1, SCM11, PRX65, etc.) as defined by the module type and address switch setting.

One Button Recipe	 This button is only present on the button bar if One-Button Recipes are enabled. Clicking on this button opens a drop-down menu that allows you to select and load a system recipe with one touch or click. These recipes consist of operator instructions and spray machines, which are groups of modules (Spray Monitors and their associated Spray Controllers and PRx Modules), each with their own recipes.  The **SETUP** selection is used to create the line recipes, and is only available to users who have been given access to it through the user permission settings in the security system. **Spray Machines** are created from the System Configuration window. The **Current Running Recipes** selection allows you to view the recipes currently running and the spray machines they are running on.
OPC Local Client	The OPC Local Client is included with the OPC Server. It is the iTrax OI, and it runs on the same computer as the OPC Server. The optional OPC Remote Client is an iTrax OI that can run on other computers on the network. The Local and Remote Clients pull spray system operation data from the OPC server.
OPC Remote Client	The optional OPC Remote Client is an iTrax OI that runs on PCs that do not have the OPC server installed but are on the same network as the PC with the OPC server. The Remote Clients access spray system data from the OPC server, which is typically installed on a computer near the production area.
OPC Server	The OPC Server is included with the OPC Local Client. It organizes the modules on the CAN network and serves the data collected by the modules to the Local and Remote Client Operator Interfaces.

Operator Log In	When the Security System is enabled, this button allows you to log in to the OI. You must have a user name and password assigned to you before you log in. This button changes in appearance, depending on if the security system is enabled or disabled:  Security system is enabled; no operator is logged in. Touch this button to log in.  Security system is enabled; an operator is logged in. Touch this button to log out and revert to No Operator.  Security system is disabled.
PRx Module Information and Setup Menu	Touching the PRx Module information and setup menu opens the drop-down menu. The following tools are available on the menu:  **Speed Details** View the speed of the current chuck, or the last speed measured of all the chucks on the turret  **PRx Module Configuration** View and change the PRx Module configuration settings.  **Copy PRx Configuration** Copy the settings from this PRx Module to other PRx Modules. This function is only available when One-Button Recipes are disabled.

<table>
<tr>
<td>Pressure Readings</td>
<td>
The Spray Monitor faceplate shows three actual and calibrated pressures at all times:


(Delta pressure is the difference between the base and fire pressures when the gun sprays.)

NOTE: The Spray Monitors send data to the OI once every second. The pressures shown in the pressure window are the average pressures taken during the one-second increment.

Symbols in Actual Pressure Fields

The following image shows the symbols that may appear in the pressure window.


<table>
<tr><th>Symbol</th><th>Meaning</th><th>Example</th></tr>
<tr><td>< or ></td><td>Pressure reading is either greater or less than what the pressure transducer can read.</td><td>The current pressure transducer range is 0--600 psi. The current base pressure reading is greater than 600 psi, but cannot be precisely determined.</td></tr>
<tr><td>*</td><td>The Spray Monitor has not received a signal from the pressure transducer for at least five seconds.</td><td>The pressure transducer has not sensed the fire pressure in at least five seconds.</td></tr>
<tr><td>?</td><td>The delta pressure cannot be determined because either the base or fire pressure reading is at least five seconds old.</td><td>Because the base pressure is out of the transducer's range, an accurate delta pressure value cannot be determined.</td></tr>
</table>
</td>
</tr>
<tr>
<td>Select Gun Group</td>
<td>  Touching this button displays a drop-down menu listing the gun groups are set up. Select a group from the drop-down menu to view the gun faceplates in that group. Faceplates that do not belong to that group are minimized at the bottom of the main window.</td>
</tr>
</table>

Spray Animation	Indicates that the spray gun is operating. When the gun stops spraying, the animation stops within five seconds. Animation can be disabled if desired through the System Configuration menu. Enabling Spray Animation The animation can be changed to indicate the type of gun connected to the spray monitor: a lacquer spray gun such as a MEG, A10A, or A20A gun, or a CleanSpray Gun. This must be done by your Nordson service representative.
Spray Controller Information and Setup Menu	Touching the Spray Controller information and setup menu opens the drop-down menu. The following tools are available on the menu:  **Spray Controller Configuration** View and change the Spray Controller configuration settings.  **Copy Spray Controller Configuration** Copy the settings from this Spray Controller to other Spray Controllers added to the OI. This function is only available when One-Button Recipes are disabled.
Spray Counter	Increments each time the timer sends a Gun On signal to the Spray Monitor, to count the number of cans sprayed. The spray counter can be reset from the Spray Monitor configuration window or the system dropdown menu. The counter must be enabled. **NOTE:** The spray counter resets automatically if you exit the OI or turn off power to the Spray Monitor.
Spray Gun Timing	 **Delay:** Length of time, in milliseconds, to allow can to settle into the turret pocket before triggering the lacquer spray gun.  **Duration:** Length of time the gun sprays, in milliseconds.

Spray Monitor Information and Setup Menu	Touching the Spray Monitor information and setup menu opens the drop-down menu. The following functions are accessed from the menu:  **Details** Opens the details window, which displays more information about the gun operating status, including fault status (enabled or disabled), sprays per minute, and spray duration.  **Display Pressure Graphs** Shows graphs that show real-time base, spray, and delta pressures. To view graphs that show more detail and history, you must use the iTrax Data Logger application.  **Spray Monitor Configuration** View and change the Spray Monitor configuration settings.  **Copy Spray Monitor Configuration** Copy the settings from this Spray Monitor to other Spray Monitors assigned to the OI. This function is only available if One-Button Recipes are disabled.  **Spray Controller Configuration** View and change the associated Spray Controller configuration settings. This function is only available if a Spray Controller has been added to the system and associated with the Spray Monitor.  **PRx Module Configuration** View and change the associated PRx Module configuration settings. This function is only available if a PRx Module with the same node address is present on the iTrax network.

System Configuration Tools	 Touching this button causes a drop-down menu to appear. These selections are available on the drop-down menu, depending on the system configuration:  **System Configuration** Allows you to view and change settings that affect the iTrax OI.  **Tile Modules** Automatically arranges the faceplates on the main OI screen.  **Calibrate Multiple Guns** Allows you to calibrate several guns at the same time.  **Reset Multiple Gun Spray Counters** Allows you to reset several spray counters at the same time.  **Copy [device name] Recipe** Allows you to copy a recipe from one Spray Monitor, Spray Controller, or PRx Module to another. This is useful when you are either setting up devices for the first time or applying the same recipe to several devices.  **Spray Controller Configuration** Allows you to select a Spray Controller, then view and change the Controller settings.  **PRx Configuration** Allows you to select a PRx Module, then view and change the Module settings.  **Multi Module Faults On/Off** Allows you to turn on and off faults for all modules, all modules in a spray machine, or selected modules.