# iTrax<sup>®</sup> DataShare

Customer Product Manual Document Number 1609097-04 Issued 02/24

For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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#### Contact Us

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# **Change Record**

Revision	Date	Change
01	5/16	Release
02	4/20	Administrative
03	10/22	Updated kit part numbers
04	02/24	Added new PNs, Updated Install info, Replaced Anybus images, Added Appendix B.

Safety	
Introduction	
	Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.
	Make sure all equipment documentation, including these instructions, is accessible to persons operating or servicing equipment.
Qualified Personnel	
	Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.
Intended Use	
	Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.
	Some examples of unintended use of equipment include:
	using incompatible materials
	<ul> <li>making unauthorized modifications</li> </ul>
	<ul> <li>removing or bypassing safety guards or interlocks</li> </ul>
	<ul> <li>using incompatible or damaged parts</li> </ul>
	<ul> <li>using unapproved auxiliary equipment</li> </ul>
	<ul> <li>operating equipment in excess of maximum ratings</li> </ul>
Regulations and App	orovals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

# **Personal Safety**

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Safety Data Sheets (SDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated. To prevent injury, be aware of lessobvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

#### **High-Pressure Fluids**

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the SDS for the injected fluid to the health care provider.

The National Spray Equipment Manufacturers Association has created a wallet card that you should carry when you are operating high-pressure spray equipment. These cards are supplied with your equipment. The following is the text of this card:



**WARNING:** Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- · Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show them this card
- · Tell them what kind of material you were spraying

#### MEDICAL ALERT - AIRLESS SPRAY WOUNDS: NOTE TO PHYSICIAN

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable.

The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin microflora residing in the paint or gun which are blasted into the wound. If the injected paint contains acrylic latex and titanium dioxide that damage the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injected paint, judicious wound debridement, and immediate antibiotic treatment.

## **Fire Safety**

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored. Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits when working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

#### Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

<u>Element</u>	<u>Symbol</u>	Prefix
Fluorine	F	"Fluoro-"
Chlorine	CI	"Chloro-"
Bromine	Br	"Bromo-"
lodine	I	"lodo-"

Check your material SDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson representative for information about compatible Nordson components.

### Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

### Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

# Description

The iTrax<sup>®</sup> DataShare monitoring program communicates iTrax module information and manufacturing data to a PLC system on a network. iTrax DataShare features configurable monitoring capabilities and can be used to backup the iTrax system configuration settings, users, and recipes.





### **Hardware List**

Nordson provides:

- Anybus® Communicator™
- 1. 24 Vcd power supply
- 2. DB-9 female to 7 position connector
- 3. USB Flash Drive containing iTrax Datashare software

**Customer Provides:** 

- 1. Variable length Ethernet Cable to PLC system
- 2. AC power (120-240V) connection to 24 VDC power supply
- 3. DC power wiring (18 AWG)
- 4. T35 DIN rail (for mounting equipment)

# **Specifications**

Anybus Communicator:					
Power Requirements:	12-30 Vdc				
Current Consumption (Maximum):	400 mA				
Operating Temperature Range:	-13° to 158°C (-25 to 70°C)				
Model: iTrax DataShare					
Input Voltage Rating:	100 to 240 Vac 50/60Hz				
Input Current (Maximum RMS):	1.4 A (Internal fuse protected)				
Output Voltage:	24-28 Vdc				
Output Current (Maximum):	3.3 A				
Operating Temperature Range:	-25° to + 40°C				



Figure 2 iTrax DataShare Hardware Measurements

# Installation

# Mounting iTrax DataShare Power Supply and Anybus Communicator

Mount the Anybus Communicator and the DC power supply onto a T35 mm DIN rail inside the cabinet containing the iTrax modules. The mounting area should be free of vibration, excessive dust, and moisture. Ambient temperatures must not exceed the recommended operating range.



Figure 3 Hardware Mounting

### **Hardware Setup**

See Figure 4.

- 1. Connect available 100–240 Vac power source to the AC power input terminals (5) of the power supply (1). Be sure earth ground is connected to the ground terminal (4).
- 2. Connect +24 Vdc power to the Anybus Communicator input terminals (3) from the power supply (1) using 18-gauge wire.
- 3. Connect the Anybus Communicator (2) to the iTrax PC using the null-modem serial cable provided in the kit.

**NOTE:** Note the serial com port number (i.e. COM1, COM2, etc.) used in the iTrax PC. This port number will need to be selected during the software installation.

4. Connect the Anybus Communicator to a host PLC using a suitable Ethernet cable.

# Wiring Diagram



Figure 4 Example of iTrax DataShare Wiring Diagram

- 1. Power supply
- 2. Anybus Communicator
- 3. Anybus Communicator input terminals
- 5. AC power supply input terminals
- 4. Ground terminalNOTE: For older modules, refer to Appendix B for previous diagram.

## **DataShare Icon Meanings**



**Image Table** 

Figure 5 DateShare Icons

## **Software Installation**

### **Copy the Flash Drive Files**

See Figure 6.

1. Click on New folder to create a new folder in the iTrax PC local C:\drive.

Exit

- 2. **Rename** the new folder iTrax DataShare.
- 3. Plug the flash drive into the USB port.
- 4. **Copy** the files from the flash drive folder into the newly created *iTrax DataShare* folder.
- 5. Verify the contents of the newly created folder.

					l	- 0	x
Compute	er ► Local Disk (C:) ►		▼ <sup>4</sup> y Si	earch Local Disk (	(C:)		P
Organize 🔻 🍃 Open	Include in library 🔻 Share with 🔻	New folder			•	•	0
☆ Favorites	Name	Date modified	Туре	Size			
💻 Desktop	📗 NdsnClient	4/12/2016 4:11 PM	File folder				
🗽 Downloads	📗 NdsnServer	4/12/2016 4:10 PM	File folder				
Recent Places	📗 PerfLogs	7/13/2009 11:20 PM	File folder				
	🌗 Program Files	4/12/2016 3:16 PM	File folder				
🧊 Libraries	퉲 Program Files (x86)	4/12/2016 4:17 PM	File folder				
Documents	Ja Users	4/12/2016 3:09 PM	File folder				
🚽 Music	Ja Windows	4/12/2016 4:16 PM	File folder				
Pictures	🍌 iTrax DataShare	4/13/2016 9:30 AM	File folder		]		
Videos							
🖳 Computer							
📬 Network							
iTrax DataShar File folder	re Date modified: 4/13/2016 9:30 AM						

Figure 6 Creating the iTrax DataShare Folder

#### iTrax DataShare Program Installation

The iTrax DataShare software is located on the purple flash drive. Before installing the DataShare software, be sure to copy the program files onto the PC using the instructions provided in the *Copy the Flash Drive Files* section of this manual.

- 6. Go to C:\iTrax DataShare\ setup.exe.
- 7. Double Click on setup.exe.

The Nordson iTrax DataShare- InstallShield Wizard will begin.

See Figure 7.

- 8. Click on <u>Next</u> to initiate the installation.
- 9. **Click** on <u>Install</u>. iTrax DataShare installs to the following path: <u>C:\iTrax DataShare\</u>.
- 10. Click on Finish to complete the iTrax DataShare installation procedure.



Figure 7 iTrax DataShare InstallShield Wizard

## **Initial Startup**

1. Click on the lock button or go to Login - Login.

2. Log in to the software using the administrative login information provided.

**NOTE:** General administration login information will be provided at startup. User profiles and passwords can be set up after the iTrax DataShare software is configured.

### **General Login Information**

User: Administrator Password: admin

• The administrator has full permissions.

#### User: Operator Password: password

• The operator is only able to run/stop the program.



Figure 8 iTrax DataShare Initial Login

# Software Configuration

See Figure 9.



- Click on the <u>Setup</u> button or go to <u>Setup Settings</u>.
- 2. Select Manual as the Auto Start option.
- 3. **Select** the serial port that the Anybus is connected to from the <u>Port</u> menu.
- 4. Select Ethernnet<sup>®</sup> IP from the Output menu.

**NOTE:** If using <u>Profinet I/O</u> and for software versions prior to 1.6 refer to the Software Activation section in Appendix B.

	etup kun Backup Help			
Module	SPC Connection	Value	Timestamp	
	Setup Options		×	
	Auto Start Manual Auto Users 20 20 20	Language English (United Stat Serial Output Port COM1 Output Anybus Ethe Reverse Output Byte O Force Tag Size (Bytes	es) ▼ met/IP 496 ▼ Order □ ) @ 2 ○ 4	
		8		

Figure 9 Software Configuration Screen

## **Tag Selection**

- 1. Power on all iTrax spray modules.
- 2. Start iTrax DataShare software.
- 3. Click on the <u>Tag Selection</u> button or **go to** <u>Setup-Tag Selection</u>. Available tags will populate for each modules running on the iTrax system.

NOTE: If iTrax OPC server has not been started, it will start automatically.

See Figure 12.

- 4. Highlight the iTrax module from the module list on the left.
- 5. Select the OPC tags from the center of the screen.

**NOTE:** The progress bar indicates how much memory is being used by the tag selections.

**NOTE:** Before saving tag selections, it is advised to generate an image table of the tag selections.



6. Click on the <u>Image Table</u> button or **go to** <u>Image Table-Generate Image Table</u> <u>Document</u>. The imaging button generates an image table of all tags to be monitored, where they are located on the Anybus Communicator, and the units of each tag.

	File Image Table						Progress	Bar	
	Avzilable Tags					Selected Tags			
	Module	OPC Tag	Units	Size			-	142/496	Clear All
aldeT anem	LSM11_SM_TOP	Short Duration Alarm Value	ms	2		Madula	0.0C T	Chardina Address	Cine
hage lable	LSM11_SM_BOT	Gun Open Slow Alarm Value	ms	2		Module	UPC Tag	Starting Address	Size
	LSM11_PRX_TOP	Gun Close Slow Alarm Value	ms	2		LSM11_SM_TOP	Short Duration Alarm	2	2
	LSM11_PRX_BOT	W High Base Pressure Warning	PSI	2		LSM11_SM_TOP	Gun Open Slow Alar	4	2
	LSM11_SC_TOP	V Low Base Pressure Warning	PSI	2		LSM11_SM_TOP	Gun Close Slow Alar	6	2
x Modules	LSM11_SC_BOT	W High Flow Pressure Warning	PSI	2		LSM11_SM_TOP	High Base Pressure	8	2
		V Low Flow Pressure Warning V	PSI	2		LSM11_SM_TOP	Low Base Pressure	10	2
		V High Base Pressure Alarm Val	PSI	2	=	LSM11_SM_TOP	High Flow Pressure	12	2
		V Low Base Pressure Alarm Value	PSI	2		LSM11_SM_TOP	Low Flow Pressure	14	2
		V High Flow Pressure Alarm Value	PSI	2		LSM11_SM_TOP	High Base Pressure	16	2
		V Low Flow Pressure Alarm Value	PSI	2		LSM11_SM_TOP	Low Base Pressure A	18	2
		East Cycle Bate Alarm Value	ms	2		LSM11_SM_TOP	High Flow Pressure A	20	2
Soloction		Short Trigger Warping Value	ms	2		LSM11_PRX_TOP	Low Regulator Setpoi	22	2
JSelection		Short Trigger Alarm Value	ms	2		LSM11_PRX_TOP	High Regulator Setpo	24	2
		Long Trigger Warning Value	ms	2		LSM11_PRX_TOP	Low Lacquer Temper	26	2
		Long Trigger Alam Value	ms	2		LSM11_PRX_TOP	High Lacquer Tempe	28	2
		Module Software Version	Version	2		LSM11_PRX_TOP	Low Belt/Chuck Spe	30	2
		Actual Base Pressure	PSI	2		LSM11_PRX_TOP	High Belt/Chuck Spe	32	2
		Calibrated Base Pressure	PSI	2		LSM11_PRX_TOP	Low Regulator Setpoi	34	2
		Calibrated Fire Pressure	PCI	2	_	LSM11_PRX_TOP	High Regulator Setpo	36	2
		Calibrated Spray Trigger Time	1.51	2	_	LSM11 PRX TOP	Low Lacquer Temper	38	2
		Module Internal Data Version	Version	2		LSM11_PRX_TOP	High Lacquer Tempe	40	2
		Actual Fire Pressure	DCI	2	_	LSM11_SC_TOP	Module Software Ver	42	2
		Actual Gun Open Response	me	2		LSM11_SC_TOP	Actual Can Count	44	4
		Actual Gun Open Response	1115	2		LSM11_SC_TOP	Module Internal Data	48	2
		Actual Can Count	Cono	2	_	LSM11 SC TOP	Driver Software Version	50	2
		Actual Can Count	Cdris	4	_	LSM11_SC_TOP	General Module Status	52	2
		Actual Gun Open Duration	IIIS Dia L	2	-	•			P.

#### Figure 10 Tag Selection Screen

### **Tag Selection (contd)**

7. See Figure 11. Save image table as a CSV file. The CSV files contains the details of each tag connection that was selected.

**NOTE:** The image table is used by the PLC programmer to retrieve iTrax system data.

See Figure 12 for an example of a CSV file image table view in Microsoft Office® Excel.

- 8. Click the V button to save and exit the tag selection screen.
- 9. See Figure 13. View selected tags on the main screen of the program.



#### Figure 11 Saving Image Table

	А	В	С	D
1	Connection List	4/13/2016 14:22		
2	Module	Тад	Size [Bytes]	Address
3	NONE	Keep Alive Counter	1	0
4	NONE	EMPTY BYTE	1	1
5	LSM11_SM_TOP	Short Duration Alarm Value	2	2
6	LSM11_SM_TOP	Gun Open Slow Alarm Value	2	4
7	LSM11_SM_TOP	Gun Close Slow Alarm Value	2	6
8	LSM11_SM_TOP	High Base Pressure Warning Value	2	8
9	LSM11_SM_TOP	Low Base Pressure Warning Value	2	10
10	LSM11_SM_TOP	High Flow Pressure Warning Value	2	12
11	LSM11_SM_TOP	Low Flow Pressure Warning Value	2	14
12	LSM11_SM_TOP	High Base Pressure Alarm Value	2	16
13	LSM11_SM_TOP	Low Base Pressure Alarm Value	2	18
14	LSM11_SM_TOP	High Flow Pressure Alarm Value	2	20
15	LSM11_PRX_TOP	Low Regulator Setpoint Pressure Warning Value	2	22
16	LSM11_PRX_TOP	High Regulator Setpoint Pressure Warning Value	2	24
17	LSM11_PRX_TOP	Low Lacquer Temperature Warning Value	2	26
18	LSM11_PRX_TOP	High Lacquer Temperature Warning Value	2	28
19	LSM11_PRX_TOP	Low Belt/Chuck Speed Warning Value	2	30

#### Figure 12 Image Table Example

🔗 iTrax DataShare			>	٢
Login Setup	Run Backup Help			
🕅 🔓 🕨 🕯	🕄 🏷 💣			
Module	OPC Connection	Value	Timestamp	
LSM11_SM_TOP	Short Duration Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	Gun Open Slow Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	Gun Close Slow Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	High Base Pressure Warning Value	0	1/1/0001 12:00:00 AM	-
LSM11_SM_TOP	Low Base Pressure Warning Value	0	1/1/0001 12:00:00 AM	-
LSM11_SM_TOP	High Flow Pressure Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	Low Flow Pressure Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	High Base Pressure Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	Low Base Pressure Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SM_TOP	High Flow Pressure Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	Low Regulator Setpoint Pressure Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	High Regulator Setpoint Pressure Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	Low Lacquer Temperature Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	High Lacquer Temperature Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	Low Belt/Chuck Speed Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	High Belt/Chuck Speed Warning Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	Low Regulator Setpoint Pressure Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	High Regulator Setpoint Pressure Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	Low Lacquer Temperature Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_PRX_TOP	High Lacquer Temperature Alarm Value	0	1/1/0001 12:00:00 AM	
LSM11_SC_TOP	Module Software Version	0	1/1/0001 12:00:00 AM	
LSM11_SC_TOP	Actual Can Count	0	1/1/0001 12:00:00 AM	
LSM11_SC_TOP	Module Internal Data Version	0	1/1/0001 12:00:00 AM	
LSM11_SC_TOP	Driver Software Version	0	1/1/0001 12:00:00 AM	
ISM11 SC TOP	Ganaral Modula Statue	n	1/1/0001 12:00:00 AM	*
•	III.			
Running Time: 00:00	):00 Stopped 🔗 A	dministrator	2:26:01 PM	

Figure 13 Image Table Example

### **PLC Programmer Connection Information**

The PLC programmer will need to connect to the Anybus Communicator module with an input memory size of 496 Kb and an output memory size of 2 Mb. All details are contained in the image table and will populate according to the specific network protocol.

The image table is used by the PLC programmer to retrieve iTrax system data.





### Switching from Ethernet/IP to Profinet I/O

**NOTE:** The Anybus module comes preconfigured with the Ethernet/IP. To reconfigure for Profinet I/O, refer to the instructions below.

#### Accessing the Anybus Communicator Interface

See Figure 15.

1. Power up the Anybus Communicator module.

**NOTE:** A PC with a compatible web browser will be needed to properly access the Anybus software.

**NOTE:** Older iTrax controllers ship with a Windows 10 PC that uses Internet Explorer which may be incompatible with the Communicator's software. Use a laptop, PC, or the iTrax PC with a browser that supports iTrax software. A portable version of Firefox is included on the DataShare USB.

2. Connect the PC to the Config X1 Ethernet port of the Anybus Communicator module.

**NOTE:** The module's default IP is 192.168.0.10. The PC's IP address must be set to a static address within the same range as the Communicator's IP address. Download the HMS IPConfig tool from the Anybus website to change the Communicator's IP address.

3. In the chosen web browser, type the Anybus Communicator's IP address. The built-in web interface overview page of the Anybus Communicator will appear.



Figure 15 Anybus Communicator Ports

### **Installing Firmware**

See Figure 16. By default, the Anybus Communicator is preconfigured with the Ethernet/ IP v1.13.01.

**NOTE:** To reconfigure the Anybus for Profinet I/O, use the files copied from the DataShare USB.

- 1. In the built-in interface, navigate to the Files and Firmware section.
- 2. Under the Firmware management section, click the Upload button.
- 3. Click the Select Firmware File (.hiff) button and browse to the following locations:
- For Profinet I/O: C:/iTrax DataShare/Gateway Module files/Profinet/hms-abc-fwpir-1-07-02/ABC\_PIR\_SERM\_7741\_1\_07\_02\_HmsOtgw.hiff
- For Ethernet I/P: C:/iTrax DataShare/Gateway Module files/Ethernet\_IP/hms-abc-fweip-1-13-01/ABC\_EIP\_SERM\_7741\_1\_13\_01\_HmsOtgw.hiff
- Select the appropriate .hiff firmware file, then click **Open** on the dialog box to continue.
- 5. Click the Update Firmware button to initiate the update process.

**NOTE:** This will validate and transfer the firmware file from the computer to the Anybus Communicator. The Anybus Communicator will reboot and reset to the factory default settings for the updated network protocol.



Figure 16 Built-in Web Interface Firmware Pop-up

### Installing Firmware (con't)

See Figure 17.

6. Once the Anybus Communicator has rebooted and the built-in interface has appeared, navigate to the **Files and Firmware** section.

**NOTE:** The **Files and Firmware** page may need to be manually refreshed, in the browser, if the page stops responding.

- 7. Navigate to the **Configuration** section and click on the **Import** button.
- 8. Click the Select file (.conf.) button and browse to the following locations:
- For Profinet I/O: C:/iTrax DataShare/Gateway Module files/Profinet/Anybus Communicator configuration ABC3090 Profinet.conf
- For Ethernet I/P: C:/iTrax DataShare/Gateway Module files/Ethernet\_IP/Anybus Communicator configuration ABC3090 EthIP.conf
- 9. Open the file and once prompted click the **Import** button.

**NOTE:** A new dialog box will prompt a pop-up asking whether or not to use the IP Address settings from the configuration file or the already configured settings.

10. Choose the **Configured settings** to complete the configuration of the Anybus Communicator firmware.

	Anybus Communicator	
A Home	Files & firmware	
Configuration	Configuration	
A Serial RS-232/485 ^	import Export	
Communication	Import or export the configuration locally on PC or handheld device.	
Nodes & transactions	× Clear	
Nodes & transactions	> Import configuration	ct the Anybus Communicator until the
to EtherNet/IP*		
🔀 1/0 data map	configuration, but not apply the imported configuration.	ator's current configuration.
Maintenance	Select file (.conf)	
Files & firmware		numicator RS-232/485/422
Troubleshooting	Cancel Import	

Figure 17 Built-in Web Interface Import Configuration Pop-up

# Operation

# Running the iTrax DataShare Software

General administrator and operator login credentials are provided at installation. Users can add or change in login credentials and permissions once they are logged onto the iTrax DataShare system.

Login information is as followed:

#### User: Administrator Password: admin

• The administrator has full permissions.

#### User: Operator Password: password

• The operator is only able to run/stop the program.

#### See Figure 18.

1. Login with appropriate credentials.

2. Click on the <u>Start</u> button or **go to** <u>Run - Start</u> to start sending data from the OPC server to the PLC network.

NOTE: The Start button will turn into the Stop button once activated.

- 3. Click on the <u>Stop</u> button or **go to** <u>Run Stop</u> to stop sending data to the PLC network.
- 4. Once the data is being transmitted, **log out** of the iTrax DataShare account to prevent unauthorized use.

Start Button						Stop Button		
🤗 iTrax DataShare			>		🖉 iTrax DataShare			- • ×
Login Setup	kun Backup Help				Login Setup	Run Backun Heln		
🕅 🔓 🕨	🕄 🏷 💣					S		
Module	OPC Connection	Value	Timestamp	A	Module	OPC Connection	Value	Timestamp
LSM11_SM_TOP	Short Duration Alarm Value	0	1/1/0001 12:00:00 AM		LSM11 PRX TOP	Low Lacquer Temperature Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	Gun Open Slow Alarm Value	0	1/1/0001 12:00:00 AM		LSM11 PRX TOP	High Lacquer Temperature Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	Gun Close Slow Alarm Value	0	1/1/0001 12:00:00 AM		LSM11_PRX_TOP	Low Belt/Chuck Speed Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	High Base Pressure Warning Value	0	1/1/0001 12:00:00 AM	-	LSM11 PRX TOP	High Belt/Chuck Speed Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	Low Base Pressure Warning Value	0	1/1/0001 12:00:00 AM	-	LSM11_PRX_TOP	Low Regulator Setpoint Pressure Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	High Flow Pressure Warning Value	0	1/1/0001 12:00:00 AM		LSM11_PBX_TOP	High Regulator Setpoint Pressure Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	Low Flow Pressure Warning Value	0	1/1/0001 12:00:00 AM		LSM11_PBX_TOP	Low Lacquer Temperature Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	High Base Pressure Alarm Value	0	1/1/0001 12:00:00 AM		LSM11_PBX_TOP	High Lacquer Temperature Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SM_TOP	Low Base Pressure Alarm Value	0	1/1/0001 12:00:00 AM		LSM11_SC_TOP	Module Software Version	30	4/13/2016 2:27:17 PM
LSM11_SM_TOP	High Flow Pressure Alarm Value	0	1/1/0001 12:00:00 AM		LSM11_SC_TOP	Actual Can Count	0	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	Low Regulator Setpoint Pressure Warning Value	0	1/1/0001 12:00:00 AM		LSM11_SC_TOP	Module Internal Data Version	20	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	High Regulator Setpoint Pressure Warning Value	0	1/1/0001 12:00:00 AM		LSM11_SC_TOP	Driver Software Version	19	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	Low Lacquer Temperature Warning Value	0	1/1/0001 12:00:00 AM		LSM11 SC TOP	General Module Status	1	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	High Lacquer Temperature Warning Value	0	1/1/0001 12:00:00 AM		LSM11_SC_TOP	General Module Faults	0	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	Low Belt/Chuck Speed Warning Value	0	1/1/0001 12:00:00 AM		LSM11 SC TOP	Actual Warning Flags	0	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	High Belt/Chuck Speed Warning Value	0	1/1/0001 12:00:00 AM		LSM11 SC TOP	Actual Alarm Flags	0	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	Low Regulator Setpoint Pressure Alarm Value	0	1/1/0001 12:00:00 AM		LSM11 SC TOP	Module Configuration Bits	47	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	High Regulator Setpoint Pressure Alarm Value	0	1/1/0001 12:00:00 AM		LSM11 SC TOP	Spray Gun Configuration Bits	96	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	Low Lacquer Temperature Alarm Value	0	1/1/0001 12:00:00 AM		LSM11 SM BOT	Short Duration Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_PRX_TOP	High Lacquer Temperature Alarm Value	0	1/1/0001 12:00:00 AM	Status	LSM11 SM BOT	Gun Open Slow Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SC_TOP	Module Software Version	0	1/1/0001 12:00:00 AM	Status	LSM11 SM BOT	Gun Close Slow Alarm Value	0	4/13/2016 2:27:17 PM
LSM11_SC_TOP	Actual Can Count	0	1/1/0001 12:00:00 AM		LSM11 SM BOT	High Base Pressure Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SC_TOP	Module Internal Data Version	0	1/1/0001 12:00:05 AM		LSMIT SM BOT	Low Base Pressure Warning Value	0	4/13/2016 2:27:17 PM
LSM11_SC_TOP	Driver Software Version	0	1/1/0001 12:00:00 AM		LSM11 SM BOT	High Flow Pressure Warning Value	0	4/13/2016 2:27:17 PM
I SM11 SC TOP	General Module Status	-	1/1/0001 12:00:00 AM		I SM11 SM ROT	Louis Praeerina Warning Valua	n	4/13/2016 2:27:17 PM
Running Time: 00:0	0:00 Stopped De Ac	dministrato	r 2:26:01 PM		Running Time: 00:0	0:10 Running	Administrator	2:27:25 PM

Figure 18 iTrax DataShare Run Screens

# **User Maintenance**

#### Add User



See Figure 19.

- 2. Click on Add User icon to add user.
- 3. Fill in appropriate new user information.
- 4. **Click** on the **Second** button to save changes and exit the screen.

NOTE: Click on the button to exit without saving.

	Setup Options	x	Add Use	er	
	Auto Start Manual Auto	Language English (United States)		NewUser	
	Users	Serial Output Port COM1   Output Anybus Ethemet/IP 496   Reverse Output Byte Order   Force Tag Size (Bytes)   2  4		******** User Rights ✓ Select Tags ✓ Generate Image Table	- II
Add User	S	Save Exit		Change Settings Manage Users	-
			Accept	entry and exit.	

Figure 19 iTrax DataShare - Add User

#### **Remove User**

1. Click on the setup button or **go to** <u>Setup - Settings</u>.

See Figure 20.

- 2. Click on <u>Remove User</u> icon in setup screen.
- **3. Select** user to remove from the drop down menu.
- 4. Click on the Sutton to remove selected user and exit the screen.

NOTE: Click on the button to exit without saving.



Figure 20 iTrax DataShare - Remove User

### **Change User Permissions and Passwords**

1. Click on the setup button or go to Setup - Settings.

See Figure 21.



- 2. Click on Manage User icon.
- 3. Select user to edit from the drop down menu.
- 4. Fill in appropriate user information.
- 5. Click on the V button to change selected user permissions and exit the screen.

Setup Options × \_ 🗆 🗙 Manage User Auto Start Language NewUser Ŧ Manual English (United States) Ŧ 🔘 Auto \*\*\*\*\*\*\* ••• Users Serial Output Port COM1 Ŧ \*\*\*\*\*\*\* Ð 20 Output Anybus Ethernet/IP 496 -Reverse Output Byte Order 📃 . User Rights Force Tag Size (Bytes) (a) 2 (C) 4 Select Tags Ξ 🕼 Generate Image Table Change Settings Manage Users . Manage User Save Exit Accept entry and exit.

NOTE: Click on the W button to exit without saving.

Figure 21 iTrax DataShare - Manage User

### **Backup iTrax Feature**

The iTrax DataShare back up feature will backup iTrax system configuration settings, users, and recipes.



1.

**Click** on the backup button or **go to** <u>Backup-iTrax Backup and Restore</u>.

See Figure 22.

- 2. Click on the Backup iTrax button.
- 3. Name the backup file.
- 4. Save the backup file to a removable storage device.
- 5. Confirm backup success.

		Trax Backup and Resto Backup iTrax	re Full Restore Restore Recip Restore User re option.	x es s			
Save As	for the	And Ann Talas	¥				x
🕞 🗢 🗮 Deskt	op 🕨	_		<b>▼</b> 4	Search Desktop		P
Organize 🔻 Ne	w folder					== ▼ ₩=	0
Desktop Downloads Recent Places		Libraries System Folder		18	<b>user</b> System Folder		
iibraries iii Documents iiii Music iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii		Computer System Folder iTraxBackup_Line13 BACKUP File 92.5 KB	L_160413.backup		Network System Folder		
I툎 Computer							
a	-						
File <u>n</u> ame:	iTraxBackup_	Line11_160413.backup					•
Save as <u>t</u> ype:	iTrax Backup	files					•
Hide Folders					Save	Cancel	
		iTrax Backup Successful	p Created Success	fully!			

Figure 22 iTrax Backup Feature

### **Restore iTrax Feature**

The iTrax DataShare restore feature generates a <u>.backup</u> zip archive file containing all of the necessary files to fully restore the iTrax system configuration settings, users, and recipes for a new system install.

1. Click on the backup button or go to Backup-iTrax Backup and Restore.

See Figure 23.

- 2. Click on the appropriate Restore button. Restore options include the following:
- Full Restore: Restores users, recipes, and system configuration settings
- · Recipe Restore: Restores recipes and system configuration but not users
- User Restore: Restores users only
- 3. Select the iTrax backup file to restore and click the open button.

NOTE: Any restore to iTrax will overwrite any configuration setting already in place.

- 4. Click on the yes button to overwrite configuration settings.
- 5. Confirm restore success.

	Trax Backup and Rest	Full Restore Restore Recipes Restore Users	×	v
Open	One first lines			×
Desktop		-	▼ +→ Search Desktop	ر = = =
Organize     New folder       ★ Favorites     Desktop       Downloads     Downloads       ▲ Downloads     Libraries       ▲ Libraries     Documents       ▲ Music     Pictures       ■ Videos     Videos       ▲ Computer     Network	Libraries System Folder Computer System Folder CanWorks iTrax OPC Shortcut 477 bytes iTraxBackup_Line11_2 BACKUP File 92.5 KB	Server	user System Folder Network System Folder CanWorks iTrax Opera Shortcut 493 bytes	tor Interface
File <u>n</u> an	ne: iTraxBackup_Line11_160413.	backup	Open 🗸	▼ Cancel
Overwrite Warning Restori restore	ng iTrax will overwrite cr iTrax?	urrent settings! A	Are you sure you wis Yes	h to
<u></u>	Restore Successful	essfully Restored	×	

Figure 23 iTrax Restore Feature

## LED Indicators

See Figure 24 and refer to Table 1.

**NOTE:** The Subnetwork and the Security Switch LEDs can alternate between RED and GREEN. This will not effect the LEDs operating behavior and they will still act in the manner described in the table above.

When the security switch (4) status is in the:

- Locked position: The LED turns solid green.
- Unlocked position: The LED is turned off.

Table 1 Anybus LED Operation Status Indicators

	LED 1	LED 2	LED 3	LED 4
Operation Status	Gateway	Ethernet	Serial	Lock/Unlock
	Gateway Status	High Level Network/ Client	Subnetwork	Security Switch
OFF	No Power	No Power or No IP Address	No Power or Subnet not running	No power or the Security switch is unlocked
GREEN, flashing	Startup phase	Ethernet network online, no connections established	Running but one or more nodes are offline	N/A
GREEN, solid	Operational	Ethernet network online, no connections established	Running	Security switch is locked
RED, solid	N/A	IP address conflict detected or Fatal error	N/A	N/A
RED, flashing	Invalid Configuration	Connection timeout	All nodes are offline	N/A
GREEN/RED, flashing	Power up self-test, Firmware update, or Firmware recovery	N/A	N/A	N/A



Figure 24 Anybus Status Indicator LED Lights

### **LED Indicator Status Errors**

See Figure 24 and refer to Table 2.

If the LED status is a Fatal Error, this will crash the Anybus Communicator firmware in an uncontrolled manner.

If the LED status is a Exception Error, this enter the Anybus Communicator into a controlled error state. During this, the firmware application will continue to run.

#### Table 2 LED Status Errors

LED	Fatal Error	Exception Error
1	RED, solid	RED, solid
2	RED, solid	OFF
3	RED, solid	OFF
4	OFF	OFF

# Troubleshooting



**WARNING:** Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

These troubleshooting procedures cover only the most common problems. If you cannot solve a problem with the information given here, contact your local Nordson representative for help.

**NOTE:** For newer modules, LED lights need to be replaced and updated with new bulbs.

Problem	Possible Cause	Corrective Action
1. Red subnet	Bad serial cable	Check serial cable connections
status LED on	iTrax DataShare program crash	Restart iTrax DataShare
Communicator	iTrax PC shutdown	Restart iTrax PC
2. "Keep alive" byte not changing	iTrax DataShare program error	Restart iTrax DataShare
3. All module tag values are "0" iTrax module is offline		Power on iTrax module, restart server if necessary

# Repair

iTrax DataShare does not contain repairable parts. Refer to the *Troubleshooting* and *Parts* section of this manual for any issues with iTrax DataShare.

# **Parts**

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

### **Using the Illustrated Parts List**

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (-----) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

ltem	Part	Part	Part	Description	Quantity	Note
		_	—		—	
1						
2						
					Coi	ntinued
NOTE	E: A.					
	В.					
NS: N	Not Shown					
AR: A	As Required					

# **iTrax DataShare Installation Kits**

**NOTE:** The Anybus module comes programmed by default to the Ethernet protocol. If Profinet is required, follow the procedure to in this manual to convert to Profinet.

See Figure 25.

Item	Part	Description	Quantity	Note
_	1624690	Kit, DataShare, iTrax, Ethernet	1	
1	1624687	Communicator module, Anybus, 24 Vdc, Ethernet	1	
2	1624688	Cable, datashare, serial, 7 pin connector, 6 ft	1	
3		Memory, flash, USB, purple with logo	1	
4	1604238	• Power supply, 80 W, 24-28 V, 3.3 A, din rail	1	



Figure 25 iTrax DataShare - Manage User

2

# Appendix A

# **Bit Definitions of iTrax Modules**

# Spray Monitor (SM) Module Configuration Bit Maps (OPC Outputs)

OPC Tag = Module Configuration	OPC Tag = Module Configuration Bits (default = 0x1180)				
Bit Name	Bit Location	Bit Description			
UWord16 warningsOn	0x0001	//Enable Warnings = 1 (LSBit)			
UWord16 alarmsOn	0x0002	//Enable Alarms = 1			
UWord16 warningsRelayOn	0x0004	// Enable Warning Relay= 1			
UWord16 alarmRelayOn	0x0008	// Enable Alarm Relay= 1			
UWord16 alarmAutoReset	0x0010	// Enable Auto Reset= 1			
UWord16 sprayCountingOn	0x0020	// Enable Spray Counting On/Off= 1			
UWord16 firstSampleOnly	0x0040	// Test only after 1st sample= 1			
UWord16 failSafe	0x0080	// FailSafe= 1			
UWord16 transducerSelect	0x0100	// 0 = 600PSI, 1 = 1000PSI, 2 = 1500PSI			
UWord16 continuous	0x0200	// 1 = continuous, 0 = intermittent			
UWord16 gunTrigPolarity	0x0400	// Gun Trigger Polarity (0 = low true, 1 = high true)			
UWord16 boardRevision	0x3800	// Circuit Board Revision			
OPC Tag = Extended Module Con	<b>figuration Bits</b> (d	efault = 0xE000)			
Bit Name	Bit Location	Bit Description			
UWord16 CIPEnable	0x0001	// Enable Can In pocket detection = 1 (LSBit)			
UWord16 TrigCipLED	0x0002	// 0 = LED is trigger, 1 = LED is Can In Pocket			
UWord16 badSprayCountingOn	0x0004	// Enable Bad Spray Counting On/Off (was failsafe)			
UWord16 canInPocketPolarity	0x0008	// Can In Pocket input polarity(0 = lo true , 1 = hi true)			
UWord16 durationOutPolarity	0x0010	// Spray duration output polarity (0 = lo true , 1 = hi true)			
UWord16 minSprayOutputOn	0x0020	// Minimum spray duration On/Off			
UWord16 weightMeasureOn	0x0040	// Weight Measuremant On/Off			
UWord16 animationType	0x0080	// not used, but saved			
UWord16 RecipeType	0x0100	// not used, but saved			
UWord16 Not_Used	0xIE00				
UWord16 fastCycleRateAlarm	0x2000	// 1=Warning enabled			
UWord16 shortDurationWarn	0x4000	// 1=Warning enabled			
UWord16 noiseWarn	0x8000	// 1=Warning enabled			
		Continued			

# Spray Monitor (SM) Module Configuration Bit Maps (OPC Outputs) (contd)

OPC Tag = Warning and Alarm Configuration Bits (default = 0x3FFF)			
Bit Name	Bit Location	Bit Description	
UWord16 highPressAlarm	0x0001	// High Pressure Alarm Enabled = 1 (LSBit)	
UWord16 highPressWarn	0x0002	// High Pressure Warning Enabled = 1	
UWord16 lowPressWarn	0x0004	// Low Pressure Warning Enabled = 1	
UWord16 lowPressAlarm	0x0008	// Low Pressure Alarm Enabled = 1	
UWord16 highFlowAlarm	0x0010	// High Flow Alarm Enabled = 1	
UWord16 highFlowWarn	0x0020	// High Flow Warning Enabled = 1	
UWord16 lowFlowWarn	0x0040	// Low Flow Warning Enabled = 1	
UWord16 lowFlowAlarm	0x0080	// Low Flow Alarm Enabled = 1	
UWord16 gunOnTime	0x0100	// Gun On Time Warning Enabled = 1	
UWord16 gunOffTime	0x0200	// Gun Off Time Warning Enabled = 1	
UWord16 longTriggerAlarm	0x0400	// Gun timer Too Long Alarm Enabled = 1	
UWord16 longTriggerWarn	0x0800	// Gun timer Too Long Warning Enabled = 1	
UWord16 shortTriggerWarn	0x1000	// Gun timer Too Short Warning Enabled = 1	
UWord16 shortTriggerAlarm	0x2000	// Gun timer Too Short Alarm Enabled = 1	
UWord16 CanInPocketAlarm	0x4000	// Missing Can In Pocket Enabled = 1	
UWord16 SprayCounterWarn	0x8000	// Spray counter exceeded warning limit enabled	

# Spray Monitor (SM) Module Status/Fault Bit Maps (OPC Inputs)

OPC Tag = General Module Status				
Bit Name	Bit Location	Bit Description		
INT8U trigger_state	0x01	// State if the trigger input (1=high, 0=low) (LSBit)		
INT8U calibrated	0x02	// The module is calibrated =1		
INT8U watchdog	0x04	// The watchdog has tripped = 1		
INT8U canInPocket	0x08	// Can In Pocket missing when expected = 1		
INT8U opMode	0xF0	// Operating Mode		
OPC Tag = General Module Faults				
Bit Name	Bit Location	Bit Description		
INT8U COMM_FAULT	0x01	// 1= Fault (LSBit)		
INT8U EEPROM_WRITE_FAILED	0x02	// 1= Fault		
INT8U EEPROM_READ_FAILED	0x04	// 1= Fault		
INT8U BOARD_ADDRESS	0x08	// 1= Fault		
INT8U DATA_VERSION_CHANGED	0x10	// 1= Fault		
INT8U VALIDATION_WORD_BAD	0x20	// 1= Fault		
INT8U CALIBRATION_INVALID	0x40	// 1= Fault		
INT8U POWERDOWN_INVALID	0x80	// 1= Fault		

# Spray Monitor (SM) Module Status/Fault Bit Maps (OPC Inputs) (contd)

OPC Tag = Actual Warning Flags		
Bit Name	Bit Location	Bit Description
W_SHORTDURATION	0x0001	/* 0 Duration Too Short (LSBit) */
W_GUNOPENSLOW	0x0002	/* 1 Gun Open Slow */
W_GUNCLOSESLOW	0x0004	/* 2 Gun Close Slow */
W_HIGHPRESSURE	0x0008	/* 3 High Pressure */
W_LOWPRESSURE	0x0010	/* 4 Low Pressure */
W_HIGHFLOW	0x0020	/* 5 High Flow */
W_LOWFLOW	0x0040	/* 6 Low Flow */
W_NOISE	0x0080	/* 7 Noise */
W_LONGTRIGGER	0x0100	/* 8 Trigger duration too long */
W_SHORTTRIGGER	0x0200	/* 9 Trigger duration too short */
W_CTRWARNING	0x0400	/* 10 Spray counter exceeded warning value */
W_BROWNOUT	0x0800	/* 11 Brownout occured */
OPC Tag = Actual Alarm Flags		
Bit Name	Bit Location	Bit Description
A_HIGHPRESSURE	0x0001	/* High Pressure */
A_LOWPRESSURE	0x0002	/* Low Pressure */
A_HIGHFLOW	0x0004	/* High Flow */
A_LOWFLOW	0x0008	/* Low Flow */
A_FASTCYCLERATE	0x0010	/* Cycle Rate Too Fast */
A_LONGTRIGGER	0x0020	/* Trigger duration too long */
A_SHORTTRIGGER	0x0040	/* Trigger duration too short */
A_CANINPOCKET	0x0080	/* Can In Pocket missing */
A_MISSINGTRIGGER	0x0100	/* Missing trigger during Can In Pocket */

# Spray Controller (SC) Module Configuration Bit Maps (OPC Outputs)

OPC Tag = Module Configuration Bits			
Bit Name	Bit Location	Bit Description	
UWord16 warningsOn	0x0001	//Enable Warnings (LSBit)	
UWord16 alarmsOn	0x0002	//Enable Alarms	
UWord16 warningsRelayOn	0x0004	// Enable Warning Relay	
UWord16 alarmRelayOn	0x0008	// Enable Alarm Relay	
UWord16 remoteLockout	0x0010	// Enable local OI (for standalone version)	
UWord16 failSafe	0x0020	// FailSafe, 1= ON	
UWord16 sprayCountingOn	0x0040	// Enable Spray Counting On/Off	
UWord16 totalCountingOn	0x0080	// Enable processed counting	
UWord16 diagnosticsOn	0x0100	// Enable diagnostics mode	
UWord16 InhibitPolarity	0x0200	// Inhibit Input Polarity (1=High True)	
UWord16 LSM_Polarity	0x0400	// LSM Run/Stop Input Polarity (1=High True)	
UWord16 ActiveOutPolarity	0x0800	// Timer Output Active Polarity (1=High True)	
UWord16 RecipeType	0x1000	// Not used by module, but stored in EEPROM	
UWord16 spareBits	0xE000		
OPC Tag = Spray Gun Configuration	on Bits		
Bit Name	Bit Location	Bit Description	
UWord16 ManualPBPolarity	0x0001	// 0=Positive signal to Assert (LSBit)	
UWord16 IndexProxEnable	0x0002	// 1=Index Prox Switch is used	
UWord16 IndexProxPolarity	0x0004	// 0=Positive signal to Assert	
UWord16 CanSenseProxEnable	0x0008	// 1=Can Sense Prox Switch is used	
UWord16 CanSenseProxPolarity	0x0010	// 0=Positive signal to Assert	
UWord16 DelayTimeON	0x0020	// 1=Delay Time is ON (is non-zero)	
UWord16 DurationTimeON	0x0040	// 1=Duratioin Time is ON (is non-zero)	
UWord16 IndexMultiPulseDetectON	0x0080	// 1=Detect Index Signal Bounce	
UWord16 DualIndexingON	0x0100	// 1=Dual Indexing Spray Machine	
UWord16 ShiftRegisterClear	0x0200	// 0=Clear at Inhibit; 1=Never Clear SR	
UWord16 spareBits	0xFC00		
			Continued

OPC Tag = Cleanspray Configuration Bits		
UWord16 ChannelEnable	0x0001	// 1=Clean Spray is used (LSBit)
UWord16 LoWaterWarningEnable	0x0002	// 1=Warning Enabled
UWord16 LevelSwitchPolarity	0x0004	// 0=Positive signal to Assert Low Water Level
UWord16 ManualPBPolarity	0x0008	// 0=Positive signal to Assert
UWord16 WatchdogTriggerEnable	0x0010	// 1=Enable watchdog-timed triggering
UWord16 AuxCIPProxEnable	0x0020	// 1=Prox Switch Enabled
UWord16 AuxCIPProxPolarity	0x0040	// 0=Positive signal to Assert
UWord16 DelayTimeON	0x0080	// 1=Delay Time is ON (is non-zero)
UWord16 DurationTimeON	0x0100	// 1=Duration Time is ON (is non-zero)
UWord16 WatchdogMode	0x0200	// 1=CIP priority (Auto Watchdog Enable); 0=Stop state priority
UWord16 InhibitMode	0x0400	// 0=Never Inhibit Wash; 1=Complete CS Inhibit
UWord16 spareBits	0xF800	

# Spray Controller (SC) Module Status/Fault Bit Maps (OPC Inputs)

OPC Tag = General Module Status			
Bit Name	Bit Location	Bit Description	
INT8U can_sensed	0x01	// can sensed (not supported) (LSBit)	
INT8U gun_triggered	0x02	// gun triggered (not supported)	
INT8U csg_triggered	0x04	// Clean Spray gun triggered (not supported)	
INT8U LSM_state	0x08	// LSM in RUN state = 1	
INT8U master_slave	0x10	// 0=master, 1=slave	
INT8U opMode	0xE0		
OPC Tag = General Module Faults			
INT8U communication	0x01	// 1=CAN heartbeat lost (LSBit)	
INT8U eeprom_write	0x02	// 1=write operation failed (bad hardware)	
INT8U eeprom_read	0x04	// 1=read invalid data from eeprom and used default	
INT8U board_address	0x08	// 1=node address changed since last boot	
INT8U default_data	0x10	// 1=loaded default eeprom data	
INT8U eeprom_invalid	0x20	// 1=eeprom format is invalid	
INT8U powerdown_invalid	0x40	// 1=incomplete save at powderdown	
INT8U watchdog_timeout	0x80	// 1=watchdog timed out (program execution problem)	
OPC Tag = Actual Warning Flags			
W_SHORTDURATION	0x0001	// Short spray duration (LSBit)	
W_CLEANSPRAY	0x0002	// Short Cleanspray duration	
W_LOWWATER	0x0004	// Low Cleanspray Water supply	
W_SHORTDWELL	0x0008	// Cleanspray could not complete	
W_PIC_COMM	0x0010	// Driver Processor Comm Fault	
W_BROWNOUT	0x0020	// not used	
W_LSM_ALIGNMENT	0x0040	// provide warning instead of alarm	
OPC Tag = Actual Alarm Flags			
A_SHORTDURATION	0x0001	// 1=Short spray duration (LSBit)	
A_DRIVERSHORTED	0x0002	// 1=Spray Gun Driver Output Shorted	
A_DRIVEROPEN	0x0004	// 1=Spray Gun Driver Output Open	
A_DRIVERBUSS	0x0008	// 1=Driver CPU Fault	
A_CANTOOFAST	0x0020	// 1=Multiple Index Pulses per CIP pulse	
A_INDEXTOOFAST	0x0040	// 1=Did not complete Spray duration	
A_PIC_CAL	0x0080	// 1= Driver not Calibrated	
A_LSM_ALIGNMENT	0x0100	// 1=Index Pulse already asserted when CIP asserts	
A_CIP_NOSPRAY	0x0200	// Can detected but not sprayed	

# Pressure Control/Extra Function (PRx) Module (OPC Outputs)

OPC Tag = Module Configuration Bits		
Bit Name	Bit Location	Bit Description
UWord16 lsm_enable	0x0001	// 1=use LSM Run/Stop input (LSBit)
UWord16 lsm_polarity	0x0002	// 1=LSM Run/Stop input high true
UWord16 global_warning_enable	0x0004	// 1=enable warnings
UWord16 global_alarm_enable	0x0008	// 1=enable alarms
UWord16 pressure_control_enable	0x0010	// 1=enable pressure control
UWord16 temperature_monitor_enable	0x0020	// 1=enable temperature monitoring
UWord16 speed_control_enable	0x0040	// 1=enable speed setpoint
UWord16 speed_monitor_enable	0x0080	// 1=enable speed monitor
UWord16 RecipeType	0x0100	// 1=1-ButtonRecipe
UWord16 speed_monitor_polarity	0x0200	// 1=speed monitor input hi-true
UWord16 home_input_enable	0x0400	// 1=enable
UWord16 home_input_polarity	0x0800	// 1=home input hi-true
UWord16 index_input_enable	0x1000	// 1=enable
UWord16 index_input_polarity	0x2000	// 1=index input hi-true
UWord16 reserved	0xC000	
OPC Tag = Warning and Alarm Configuration	on Bits	
Bit Name	Bit Location	Bit Description
UWord16 pressure_warn_positive	0x0001	// 1=enable (LSBit)
UWord16 pressure_warn_negative	0x0002	// 1=enable
UWord16 alarm_relay_enable	0x0004	// 1=enable relay output
UWord16 failsafe	0x0008	// 1=enable mode
UWord16 temperature_warn_positive	0x0010	// 1=enable
UWord16 temperature_warn_negative	0x0020	// 1=enable
UWord16 temperature_alarm_positive	0x0040	// 1=enable
UWord16 temperature_alarm_negative	0x0080	// 1=enable
UWord16 belt_warn_positive	0x0100	// 1=enable speed warning
UWord16 belt_warn_negative	0x0200	// 1=enable speed warning
UWord16 belt_alarm_positive	0x0400	// 1=enable speed alarm
UWord16 belt_alarm_negative	0x0800	// 1=enable speed alarm
UWord16 reserved	0xF000	
	·	Continued

# Pressure Control/Extra Function (PRx) Module (OPC Outputs) (contd)

OPC Tag = Extended Module Configuration Bits		
Bit Name	Bit Location	Bit Description
UWord16 vacuum_enable	0x0001	// 1=enable (LSBit)
UWord16 vacuum_polarity	0x0002	// 1 = Positive = True
UWord16 gun_mount_enable	0x0004	// 1=enable
UWord16 gun_mount_polarity	0x0008	// 1 = Positive = True
UWord16 cip_proximity_enable	0x0010	// 1=enable
UWord16 cip_proximity_polarity	0x0020	// 1 = Positive = True
UWord16 belt_speed_enable	0x0040	// 1=enable
UWord16 belt_speed_polarity	0x0080	// 1 = Positive = True
UWord16 cip_output_enable	0x0100	// 1=enable
UWord16 cip_output_polarity	0x0200	// 1 = Positive = True
UWord16 speed_strobe_enable	0x0400	// 1=enable
UWord16 speed_strobe_polarity	0x0800	// 1 = Positive = True
UWord16 no_speed_targets	0x3000	// this 2-bit value is 1 less than number of targets
UWord16 reserved	0xC000	

# Pressure Control/Extra Function (PRx) Module Status/Fault Bit Maps (OPS Inputs)

OPC Tag = General Module Status		
Bit Name	Bit Location	Bit Description
INT8U lsm_state	0x01	// LSM in RUN state = 1 (LSBit)
INT8U xcip_output	0x02	// Not support
INT8U vacuum	0x04	// Vacuum State
INT8U cip_input	0x08	// Not supported
INT8U gun_mount	0x10	// Gun Mount State
INT8U opmode	0xE0	
OPC Tag = General Module Faults		
Bit Name	Bit Location	Bit Description
INT8U communication	0x01	// CAN communication fault = 1 (LSBit)
INT8U eeprom_write	0x02	// 1=write operation failed (bad hardware)
INT8U eeprom_read	0x04	// 1=read invalid data from eeprom and used default
INT8U PRXboard_address	0x08	// 1=node address changed since last boot
INT8U default_data	0x10	// 1=loaded default eeprom data
INT8U eeprom_invalid	0x20	// 1=eeprom format is invalid
INT8U reserved	0xC0	
OPC Tag = Actual Warning Flags		
Bit Name	Bit Location	Bit Description
W_LOPRESSURE	0x0001	// 1=Pressure setpoint too low (LSBit)
W_HIPRESSURE	0x0002	// 1=Pressure setpoint too hi
W_LOTEMPERATURE	0x0004	// 1=Actual Temperature too low
W_HITEMPERATURE	0x0008	// 1=Actual Temperature too hi
W_LOSPEED	0x0010	// 1=Actual Speed too low
W_HISPEED	0x0020	// 1=Actual Speed too hi
W_LOVACUUM	0x0040	// 1=Vacuum too low
W_GUNPOSITION	0x0080	// 1=Gun not in position
W_NEEDSERVICE	0x0100	// 1=Regulator requires maintenance
W_CHUCKFAULT	0x0200	// 1=For displaying faulted chuck position number
OPC Tag = Actual Alarm Flags		
Bit Name	Bit Location	Bit Description
A_LOPRESSURE	0x0001	// 1=Pressure setpoint too low (LSBit)
A_HIPRESSURE	0x0002	// 1=Pressure setpoint too hi
A_LOTEMPERATURE	0x0004	// 1=Actual Temperature too low
A_HITEMPERATURE	0x0008	// 1=Actual Temperature too hi
A_LOSPEED	0x0010	// 1=Actual Speed too low
A_HISPEED	0x0020	// 1=Actual Speed too hi
A_CHUCKFAULT	0x0040	// 1=For displaying faulted chuck position number

# Appendix B Previous Versions of iTrax Modules

**Previous Wiring Diagram** 



Figure 5-1 Example of iTrax DataShare Wiring Diagram

- 1. Power supply
- 2. Anybus Communicator
- 3. Anybus Communicator input terminals
- 4. Ground terminal

5. AC power supply input terminals

### **Software Activation**

See Figure 5-2.

**NOTE:** A shortcut to the iTrax DataShare software will automatically populate to the desktop on the PC.

**Double Click** the iTrax DataShare icon to start the program.



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- Sclick on the activation button or go to <u>Activate Activate iTrax DataShare</u>.
- Copy the activation code and email it to <u>iTraxlicensing@nordson.com</u> to receive a unique software activation key. Please allow up to 72 hours for receipt of activation key.

**NOTE:** The system will operate for 30 days in trial mode before installing the activation key. **During trial mode, data transfer will stop periodically. After 30 days of continuous operation, DataShare will disable without the activation code.** 



Figure 5-2 iTrax DataShare Activation

 See Figure 5-3. Enter the activation key provided by Nordson and click the button.





Figure 5-3 iTrax DataShare Activation Key Example

### **Ethernet/IP Setup**

Configure the Anybus Communicator as a generic Ethernet I/O module in the RSLogix™

PLC software. To create a generic Ethernet I/O module, obtain the following information:

- IP address of the Anybus Communicator
- Memory size (in bytes) of input module
- · Memory size (in bytes) of output module

#### **Ethernet Configuration Steps**

1. Set the IP address of the Anybus Communicator using the Anybus IPConfig utility. The IPConfig utility can be downloaded from Anybus.com or found on the flash drive.

**NOTE:** For detailed instructions on the Anybus IPConfig utility, refer to the Anybus Communicator Ethernet/IP User's Manual document located on the DataShare flash drive (100-4395-ABC\_EIP\_User\_Manual.pdf).

2. Configure the PLC to communicate with the Anybus Communicator. The I/O sizes supported will be fixed at 496-bytes input space and 2-bytes output space.

**NOTE:** For detailed instructions on configuring Rockwell® or Allen Bradley® PLCs to connect to the Anybus Communicator, refer to the *Configure Anybus Communicator EtherNet/IP Adapter with RSLogix 5000* document located on the DataShare flash drive (100-2736-ABC-EtherNetIP adapter with RSLogix 5000.pdf)

3. Once connected, use the image table document generated by iTrax DataShare to communicate the data from the input space.

## **Profinet I/O Setup**

Configure the Anybus Communicator as generic Profinet I/O modules in the Simatic Step7<sup>™</sup> PLC software. To create generic Profinet I/O modules, obtain the following information:

- · IP address of the Anybus Communicator
- Memory size (in bytes) of each input module
- Memory size (in bytes) of each output module

#### **Profinet Configuration Steps**

1. Set the IP address of the Anybus Communicator using the Anybus IPconfig utility. The IPConfig utility can be downloaded from Anybus.com or found on the flash drive.

**NOTE:** For detailed instructions on the Anybus IPConfig utility, refer to the Anybus Communicator PROFINET User's Manual document located on the DataShare flash drive (345-0004-ABC\_PRT\_User\_Manual.pdf).

2. Configure the PLC to communicate with the Anybus Communicator. The I/O sizes supported will be fixed at 496-bytes input space and 2-bytes output space.

**NOTE:** For detailed instructions on configuring Siemens® PLCs to connect to the Anybus Communicator, refer to the Anybus Communicator for *PROFINET with Siemens S7-300 PLC* document located on the DataShare flash drive (*345-4942-ABC\_Profinet\_Siemens\_S7-300\_TIA.pdf*).

3. Once connected, use the image table document generated by iTrax DataShare to communicate the data from the input space.