

User Manual: Branson X-Port Module



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- > Menu bar selection options are in **boldface** and are abbreviated as **Menu | Selection.** For example, **File | New Form** means select **New Form** from the **File** drop-down menu.
- > Start menu selections are in **boldface** and are abbreviated as **Start | Programs | InfinityQS | Documents.**
- File and directory references are in *italics*, such as *c*:*pfp*\samples\prdorder.
- > Drop down choices, names of tables within database manager, charts, and project names are in *italics*. For example, *Turning Center*.
- Dialog box names and field names are in **boldface.** For example, in the **Field Properties** dialog box, double click Customer Last Name.
- Buttons appear in UPPER CASE and in **boldface.** For example, click **OK**
- > Keystrokes appear in UPPER CASE. For example, press ENTER
- Notes and warnings appear in ruled boxes:

Note: This is an example of a note.

- Characters you are required to enter into a field using the keyboard appear in Courier New. For example, in the data entry field, type MyData.

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Branson X-Port Overview

From a single location, you can use Branson X-Port to connect to one or more Branson 2000 and 2000X Power Supplies on the shop floor or in the global network. This allows you to track and correct issues in your welding process real-time, and it provides you with visual displays of critical welding attributes, equipment error codes, and other summary information.



Data Logging

You can configure Branson X-Port to log weld attributes and error codes into a tab-delimited text file, which can be used by other reporting and analytical software to drill down into the welding data.

SPC Integration

You can integrate Branson X-Port with ProFicient SPC, which means:

- > Branson X-Port can highlight specification limit and warning limit violations through color-coding, notifying an operator of an alarm condition.
- > Branson X-Port can upload data samples into the ProFicient database, allowing you to run ProFicient's real-time SPC charts and reports and compare new welding data with historical welding data.
- > ProFicient SPC can trigger real-time alarms, and send notifications to specific individuals on certain violations.
- ProFicient SPC can require users to provide the cause and corrective action for these violations, which can then be grouped into a report to track the most common problems and solutions. This ensures action will be taken when alarms occur and the collected information can be used as a proactive tool for improving welder performance.

Understanding the Interface

Interface Overview



Interface Elements

Welder Profiles

P Branson	X-Port
<u>File C</u> onfigur	ration <u>H</u> elp
Welder #1	Welder #2 Welder #3 Welder #4
<u>A</u> . Part:	

You can create a data collection profile for each Branson 2000 and 2000X Power Supply. By clicking on a tab, you can configure and monitor the data collection for that specific power supply.

Characteristic Data

In each row, you can view information about the selected characteristic, which will depend on whether you have enabled SPC Sampling.

> SPC Sampling Enabled. If SPC Sampling is enabled, Branson X-Port displays lower and upper specification limits, average value, last captured value, and color indicators about status of last captured value.



> SPC Sampling Disabled. If SPC Sampling is disabled, Branson X-Port displays minimum and maximum values, average value, and last captured values.



Characteristic Data Layout



- Top of Bar: The numbers are the lower and upper specification limits or the minimum and maximum values. (For SPC Sampling) If the lower specification limit is not defined, Branson X-Port displays the minimum value. If the upper specification limit is not defined, Branson X-Port displays the maximum value.
- **Bottom of Bar:** The triangle pointers indicate the lower and upper specification limits or the minimum and maximum values, as well as the average value of the two. If a reported value violates a specification limit or a value, the corresponding triangle changes from black to red.
- **Inside the Bar:** The thick line inside the bar represents location within the range of the most recently collected value.
- Color of Bar: Depending on the status of the last value collected, the bar changes color: red indicates a specification limit or value violation, yellow indicates a warning limit violation (if warning limits are defined in ProFicient).
- **Right of Bar:** To the right of the bar, Branson X-Port displays the most recently collected value.

Alarm Code Data



On the right side of the window, Branson X-Port displays a list of all alarm codes received since data collection started. Each row in the list shows the Weld Cycle number that generated the alarm condition.

Welder Activity Data

At the bottom of the screen, Branson X-Port displays welder activity data since data collection started.



Mode	Total Welds	Run Time	Welds/Hour	Total Alarms	Last Weld #:
Time	61	00:01:02	3541	9	96 12:43:00

- **Mode.** Welder's mode of operation.
- **Welds.** Total number of welds acquired.
- **Run Time.** Total length of time the welder has run.
- Welds/Hour. Maximum welds per hour calculated from Welds and Run Time.
- > Alarms. Total number of welding alarms.
- **Last Weld Number.** Weld cycle number submitted by equipment and time when last weld occurred.

Installing Branson X-Port

- 1. On the server, locate the Branson X-Port setup file:
 - **CD.** Insert the Branson X-Port installation CD. If the installation does not automatically start, double click the installation file from the CD.
 - **Download.** From the Branson X-Port downloads site (http://www.infinityqs.com/branson), download the installation file and then double click the installation file.

Note: Your InfinityQS representative will provide the Branson X-Port installation executable.

2. After double clicking the installation file, the **Choose Setup Language** prompt opens.



- 3. In the **Choose Setup Language** data field, click the drop-down list and then click the desired language.
- 4. When finished, click OK. The InfinityQS Branson X-Port InstallShield Wizard Welcome screen opens.

InfinityQS Branson X-Port - InstallShield Wizard				
	Welcome to the InstallShield Wizard for InfinityQS Branson X-Pott The InstallShield Wizard will install InfinityQS Branson X-Port on your computer. To continue, click Next.			
	< Back Next > Cance			

- 5. In the Welcome screen, click Next. The wizard installs the Branson X-Port.
- 6. When finished, the wizard displays the finish screen.



7. Click Finish. The install wizard closes.



Licensing Branson X-Port

Using the following instructions, you can register your purchased copy for unrestricted use. Type the registration number included with your installation package. You can locate the registration number on the Branson X-Port CD jacket.

- **1.** After installing, open Branson X-Port by doing the following:
 - On the desktop, click the Branson X-Port link.
 - On the workstation, click Start | Programs | InfinityQS | Branson | Branson X-Port.

Branson X-Port opens, prompting you for registration information.

В	ranson X-Port v0000.0.0	0.00
Copyright (c)	1993-2008 InfinityQ5 Ir	ternational, Inc.
	http://www.infinityqs.c	om
Please enter the following	information:	
A. User Name:		
8. Company Name:		
Company Name will be incl To change any of this info	uded on all printouts get mation, the application	verated by this application. MUST BE RE-INSTALLED.
pyright law and internations production or distribution of il and criminal penalties, and der the law.	al treaties protect this co this program, or any po I will be prosecuted to th	mputer program. Linauthoris rtion of it, may result in seve e maximum extent possible

Note: To manually open the Branson X-Port License Utility, click Start | Programs | InfinityQS | Shared | Utilities | License Utility.

 In the Registration Information dialog box, type or verify your User Name and Company Name, and then click OK. The Registration dialog box opens.

InfinityQS	ProFicient SPCEE v2006.4.0.63
Copyright (c) 15	93-2008 InfinityQ5 International, Inc.
h	tp://www.infinityqs.com
YOU HAVE NOT REGISTERED	D OR DO NOT OWN A PURCHASED COPY OF THES FINITINGS APPLICATION
Please select from	one of the following options:
I. Registr	er Evaluation Copy
C 2. Registr	er Purchased Copy
C 3. Contin	ae without Registering
Number of days left	before you must register your software: 7
syright law and international t roduction or distribution of th and criminal penalties, and v leve the law.	reaties protect this computer program. Linauthorized is program, or any portion of it, may result in severe ill be prosecuted to the maximum extent possible

3. In the **Registration** dialog box, click the **Register Purchased Copy** radio button, and then click **OK**. The **Registration Number** dialog box opens.

	IIERANSON/PORT v0000.0.0.0
	Copyright (c) 1993 InfinityQS International, Inc.
	http://www.infinityqs.com
ur registration mber label in missing conta	on number must be entered before continuing. Locate the registration cluded with your application dislette. If the registration number label act Technical Support for assistance.
	Request Support Online
Please entr	er your Registration Number:
	Example: XPORT2006001ABC0000ABCD

4. In the Registration Number dialog box, click in the data field and type your registration number.

Please enter your Registration Number:

Note: Locate your registration number on your Branson X-Port CD case.

Example: SPCEE2006001ABC0000ABCD

Note: If you do not have your registration number, click the **Request Support Online** button. On the **Licensing** page, locate the **Permanent Licenses** section, click the link and then fill out and submit the form.

5. Click **OK**. The **License Number** dialog box opens.

IBRANSONXPORT: License Number								
IERANSON/PORT v0000.0.0.0								
Copyright (r	Copyright (c) 1993 InfinityQS International, Inc.							
1	ttp://www.infinityqs.com							
In order to complete the registr License Number. You may obtai the Registration forms on the 3 (www.infinitygs.com/license.htm	ration of this product, you must obtain a Product in a Product License Number via email by completing infinityQS Licensing website mi)							
พพพ.ก	nfinityqs.com/license.html							
A. Registration No.:	SPCEE2006999000399990000							
B. Installation No.:	9999							
C. Product License No.:								
Number of days lef	ft before you must license your software: 6							
Copyright law and international treates protect this computer program. Unsubhosteed reproduction or distribution of this program, or any portion of <i>R</i> , may result in severe ovir and oriming penalities, and will be prosecuted to the maximum extent possible under the law.								
СК Са	ncel Continue without Registering							

 In the License Number dialog box, click the www.infinityqs.com/license.html button. The User Information page opens.

User Information						
Please enter the following information. The license number will be emailed to the address provided below.						
	User II	nformation				
	Your Name:	Email Address :				
	Phone Number :	Re-type Email Address:				
	Submit	Information				

- 7. In the User Information page, type the following:
 - Your Name: Your Name
 - Phone Number: Your Phone Number
 - Email Address: Your E-mail Address
 - Re-type Email Address: Retype Your E-mail Address
- 8. When finished, click the Submit Information button. The Application Information page opens.

Application Information							
Please note that all fields are required . The License number will be mailed to [Your E-Mail Address] (to change, please <u>click here</u>)							
	Application I	nformation					
Access C	ode:	(what's this?)					
Registratio	on #1	(what's this?)					
Installatio	on #:	(what's this?)					
	Get License	Number					

- 9. In the **Application Information** page, type or verify the following:
 - Access Code: Access Code from the CD jacket
 - **Registration #:** Software Registration # (should be pre-filled)
 - Installation #: Installation Number (should be pre-filled)

10. When finished, click the **Get License Number** button. The **Application Information** e-mail confirmation page opens.

mailed successfully to <u>[Your E-Mail Address]</u> Application Information Access Code: [untaris this?] Registration #: [untaris this?] Installation #: [untaris this?]	Application Information			
Application Information Access Code: (undat's shis?) Registration #: (undat's this?) Installation #: (undat's this?)	Emailed successfully to [Your E-Mail Address]			
Access Code: (what's the?) Registration #: (what's the?) Installation #: (what's the?)		Application Information		
Registration #1 (what's this?) Installation #1 (what's this?)	Access Code:		(what's this?)	
Installation #: (what's this?)	Registration #:		(what's this?)	
	Installation #:		(what's this?)	
Get License Number	(Get License Number		

11. In your mail box, locate the e-mail from *InfinityQS Licensing Center*, which includes the **Registration #**, **Install #**, and **License #**, and then return to the **License Number** dialog box.

	IIERANSON/PORT v0000.0.0.0	
Copyright (c) 1993 Infinity/OS International, Inc.		
http://www.infinitygs.com		
n order to complete th icense Number. You m he Registration forms www.infinityqs.com/lik	e registration of this product, you must obtain a Product ay obtain a Product License Number via email by completing on the Infinity QS Licensing website ense.html)	
	www.infinityqs.com/license.html	
6. Registration No. :	SPCEE2006999000/99990000	
8. Installation No.: 9999		
C. Product License No		
Number of	days left before you must license your software: 6	
Copyright law and inte eproduction or distribution will and criminal penalt under the law.	national treaties protect this computer program. Unauthorized atom of this program, or any portion of R, may result in severe es, and will be prosecuted to the maximum extent possible	

12. In the **License Number** dialog box, click in the **Product License No.** data field and type your product license number.



13. Click **OK**. The **License Number** dialog box closes.



Configuring Branson Power Supply

Configuring Branson 2000X Power Supply

- 1. On the 2000X Power Supply touch screen, press the Main Menu button. The MAIN MENU screen opens.
- 2. In the MAIN MENU screen, press the System Configuration button. The SYSTEM CONFIGURATION screen opens.
- 3. In the SYSTEM CONFIGURATION screen, press the following:
 - RS 232
 - Host and Save.
- 4. In the Welder Addr data field, press OFF.
- 5. When finished, save the changes, and then close the SYSTEM CONFIGURATION screen.

Configuring Branson 2000 Power Supply

- 1. In the MAIN MENU screen, press the SYSTEM CONFIGURATION button. The SYSTEM CONFIGURATION screen opens.
- 2. In the SYSTEM CONFIGURATION screen, press the following:
 - RS 232
 - Compuweld or Host and Enter.
- 3. In the Welder Addr data field, press OFF.
- 4. When finished, press ESC.

Opening and Closing Branson X-Port

Opening Branson X-Port

- 1. On the ProFicient computer, click Start | Programs | InfinityQS | Branson | Branson X-Port.
- 2. Branson X-Port opens.

P Branson X-Port				X
<u>File</u> <u>C</u> onfiguration <u>H</u> elp				
Welder #1				
A. Part:				Start
Characteristics	_	Last Valu	e Weld	#: Alarm Code
1.				
2.	ĩ			
	11	J		
<u>3</u> .	[
	1			
<u>4</u> .]]			
<u>5</u> .	1			
	1))		
<u>6</u> . ▼]			
7	ī			
· · · · ·	11	J		
<u>8</u> .] [🔇	>
Mode Total Welds	Run Time	Welds/Hour	Total Alarms	Last Weld #:

Note: If you haven't previously configured Branson X-Port, the **Equipment Settings** dialog box automatically opens. For instructions on using the **Equipment Settings** dialog box, see "Configuring Branson X-Port".

Minimizing Branson X-Port

 In the Branson X-Port menu bar, click File | Close Window. OR

Click the X in the upper right hand corner of Branson X-Port.

2. Branson X-Port minimizes to the Windows task tray \mathcal{P} , allowing it to continue processing welding information.



3. To restore Branson X-Port, double click the minimized icon in the task tray. OR

In the Windows task tray, right click the Branson X-Port icon P, and then click **Open**. Branson X-Port opens.

Closing Branson X-Port

 In the Branson X-Port menu bar, click File | Shut Down. OR

In the Windows task tray, right click the Branson X-Port icon P, and then click **Shut Down**.

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2. Branson X-Port closes.

Configuring Branson X-Port

Using this section, you can do the following:

- Defining Branson X-Port Equipment Settings
- Defining Branson X-Port Welder Characteristics
- Logging Branson X-Port Data

Defining Branson X-Port Equipment Settings

Note: If the equipment settings have not been configured, the **Equipment Settings** dialog box automatically opens.

To change existing equipment settings, click **Configuration | Equipment Settings** in the Branson X-Port menu bar.

- 1. Stop the data collection. For instructions on stopping the data collection, see "Stopping Branson X-Port Data Collection".
- 2. The Equipment Settings dialog box opens.

Equipment Settings		
A. Name:	B. Communication Source:	ОК
	Ethernet TCP/IP	Cancel
C. IP Address:	D. IP Port	
🔲 👖 I. Raw Data Output		
	<u>M</u> . Clear	
	~	
		N. View Log

3. In the Name data field, type the equipment settings name. This name appears on the tab in Branson X-Port.

P Branson X-Port	
<u>File</u> <u>C</u> onfiguration	Help
Welder #1	
<u>A</u> . Part:	



4. Under **Communication Source**, click the drop-down list and then click the desired connection method, *Ethernet TCP/IP* or *Serial Port*.

Ethernet TCP/IP (2000X F	Power Supply)	Seri	al Port (2000 Power Supply)
In the IP Address data Address of the 2000 get the IP Address, following:	ata field, type the IP DX Power Supply. To do one of the	>	In the serial port drop-down lists (Port , Baud Rate , Parity , Data Bits , Stop Bits , and Flow Control), click the values for the workstation's RS232 output.
Press the System In the 2000X Power Su screen, and then pr Address button. OR Press the Window S 2000X Power Suppl screen, and then do	formation button on upply's MAIN MENU ess the View IP Setup button on the y's MAIN MENU puble click the	>	Using a null model cable, connect the workstation to the 2000 Power Supply.
clock.	field, type 4000.		

5. To test the connection (IP address or serial port), click the **Start** button.

_

ſ

• Successful Connection. If the connection is successful, the Equipment Settings dialog box displays Connected in the status bar and displays weld information in the information box.

Note:	While connected and collecting test weld information, the Start button changes to a Stop
	button.

To disconnect and stop collecting test weld information, click the **Stop** button.

- o To view the raw data output from the welder, click the **Raw Data Output** checkbox.
- To copy the weld information in the information box onto the workstation's clipboard, click the **Copy** button.
- To clear the weld information in the information box, click the **Clear** button.





• Unsuccessful Connection. If the connection is unsuccessful, the Equipment Settings dialog box displays the error code in the status bar (for example, 10060 – The attempt to connect timed out, 10061 – Connection is forcefully rejected, etc.). For instructions on troubleshooting the connection, see "Testing Connection".

🔲 I. Raw Data Output	
	<u>S</u> tart
	L. Copy
	<u>M</u> . Clear
10061 - Connection is forcefully rejected	

6. Examine the results of the test connection.

Defining Branson X-Port Welder Characteristics

- 1. Stop the data collection. For instructions on stopping the data collection, see "Stopping Branson X-Port Data Collection".
- 2. Click the desired welder tab.

P Branson X-Port
Eile ⊆onfiguration Help
Welder # Welder #2 Welder #3 Welder #4
A. Part: 🔪
A. Part: V

3. Under Characteristics, click the drop-down list and then click the desired characteristic:

	Characteristics		
<u>1</u> .	-]	
<u>2</u> .	Energy Peak Power	·	
<u>3</u> .	Total Absolute Total Collapse Velocity		
<u>4</u> .	Weld Collapse Weld Force		

- Energy. Total energy applied to part during the weld, in joules.
- Peak Power. Maximum power draw during weld, in percent of peak power.
- Total Absolute. Distance from home position upper limit to end of weld, in inches.
- Total Collapse. Distance from trigger to end of hold, in inches.

- Velocity. Actuator speed before touching the part, in inches per second.
- Weld Collapse. Distance from trigger to end of weld, in inches.
- Weld Force. Force at end of weld, in pounds.
- Weld Time. Total time from trigger to end of weld, in seconds.
- 4. Repeat the above step, adding up to eight characteristics.
- 5. When finished, start the data collection. For instructions on starting the data collection, see "Starting Branson X-Port Data Collection".

Logging Branson X-Port Data

Understanding Data Logging

Branson X-Port can record information about each weld performed, adding lines to the bottom of the logging file. To start logging data, you must enable data logging and also start data collection by clicking the **Start** button. If unable to write to the logging file, Branson X-Port records the error to the *iibransonxport.log* file, which is typically located in the ProFicient *Private* folder.

Below is an example of the logging file.

```
Acquired Time Cycle Count Hour ... Weld Force Hold Force
Total Cycle Time
0/00/0000 0:00:00 PM 00 00 ... 100 100 65536.15
```

Note that:

- The first row is the header, containing each column label in the logging file.
- > Each weld is on a separate line, and the lines are separated with a carriage return (ASCII 13) and line feed (ASCII 10).
- Each attribute value in a row is separated with a tab (ASCII 9).

Log File Details

Below is a description of each column saved to the log file.

Column	Description	
Acquired Time	The computer's time when the weld was performed.	
Cycle Count	Sequential weld number. This number comes from the welder and is not reset by Branson X-Port.	
Hour	Hour when the weld occurred.	
Minute	Minute within the Hour when the weld occurred.	
Second	Second within the Minute when the weld occurred.	
Year	Year when the weld occurred.	
Month	Month within the Year when the weld occurred.	
Day	Day within the Month when the weld occurred.	

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Column	Description
Weld Time	Time from trigger to the end of weld in seconds.
Energy	Energy applied to the part in Joules.
Distance	Distance from the upper limit home position to the end of weld in inches.
Weld Collapse	Distance from trigger to the end of weld in inches.
Total Collapse	Distance from trigger to the end of hold in inches.
Start Frequency	Frequency of the power supply at the start of weld in Hertz.
End Frequency	Frequency of the power supply at the end of weld in Hertz.
Frequency Change	Delta between start and end frequency in Hertz.
Frequency Minimum	Minimum frequency of the power supply during a weld in Hertz.
Frequency Maximum	Maximum frequency of the power supply during a weld in Hertz.
Velocity	Speed of the actuator before touching the part in Inches per second.
Trigger Distance	Distance from upper limit home position to trigger in inches.
Reject Part Alarms	See Reject Alarm Values
Suspect Part Alarms	See Suspect Part Alarm Values
No Cycle Alarms	See No Cycle Alarm Values
Overload Alarms	See Overload Alarm Values
Equipment Failure Alarms	See Equipment Failure Alarm Values
Cycle Modified Alarms	See Cycle Modified Alarm Values
Preset #	Welder's current preset number.
Note Alarms	See Note Alarms Values
Amplitude A	Step amplitude profiling start amplitude in percent.
Amplitude B	Step amplitude profiling end amplitude in percent.
Weld Mode	See Weld Mode Values
PS Control Flags	<undefined></undefined>
Peak Power	Maximum power draw during weld in percent.
Weld Pressure	Regulator pressure in PSI.

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Column	Description
Weld Force	Force at end of weld in pounds.
Hold Force	Force at end of hold in pounds.
Total Cycle Time	Total elapsed time from the beginning to the end of a weld cycle.

Reject Part Alarm Values

In the data file the Reject Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	-R Energy Limit
Bit01	+R Energy Limit
Bit02	-R Pk Power Limit
Bit03	+R Pk Power Limit
Bit04	-R Col Dist Limit
Bit05	+R Col Dist Limit
Bit06	-R Abs Dist Limit
Bit07	+R Abs Dist Limit
Bit08	-R Trig Dist Limit
Bit09	+R Trig Dist Limit
Bit10	-R Weld Force Limit
Bit11	+R Weld Force Limit
Bit12	-R Time Limit
Bit13	+R Time Limit
Bit14-16	<undefined></undefined>
Bit17	LL Not Reached
Bit18-31	<undefined></undefined>

Suspect Part Alarms Values

In the data file the Suspect Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	-S Energy Limit
Bit01	+S Energy Limit
Bit02	-S Pk Power Limit
Bit03	+S Pk Power Limit
Bit04	-S Col Dist Limit
Bit05	+S Col Dist Limit

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Bit Assignment	Alarm Text
Bit06	-S Abs Dist Limit
Bit07	+S Abs Dist Limit
Bit08	-S Trig Dist Limit
Bit09	+S Trig Dist Limit
Bit10	-S Weld Force Limit
Bit11	+S Weld Force Limit
Bit12	-S Time Limit
Bit13	+S Time Limit
Bit14-31	<undefined></undefined>

No Cycle Alarms

In the data file the No Cycle Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	Upper Limit Timeout
Bit01	<undefined></undefined>
Bit02	Trigger Before Pretrigger
Bit03	Trigger Timeout
Bit04	<undefined></undefined>
Bit05	LLS abort before TRS
Bit06	External Cycle Abort
Bit07	Missing Part Abort
Bit08	Abs Before Trigger
Bit09	Amp Step before Trigger
Bit10	F Step before Trigger
Bit11	Ground Detect Cutoff
Bit12-31	<undefined></undefined>

Overload Alarms Values

In the data file the Overload Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	Test Overload
Bit01	Pretrigger Overload
Bit02	Seek Overload
Bit03	Power Supply Overload
Bit04	Cont Power Limit

Bit Assignment	Alarm Text
Bit05	Afterburst Overload
Bit06	Pre-Weld Seek Overload
Bit07	Post Weld Seek Overload
Bit08-31	<undefined></undefined>

Equipment Failure Alarms Values

In the data file the Equipment Failure Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	Encoder Failed
Bit01	Upper Limit Switch
Bit02	Upper Limit Switch
Bit03	Door Sw Fail
Bit04	<undefined></undefined>
Bit05	Solenoid Drive Fail
Bit06	Thermal Overload
Bit07	Preset Data/BBR
Bit08	Horn Return Timeout
Bit09	Actuator NovRam
Bit10	P/S NovRam
Bit11	Start Sw Time
Bit12	MPS Switch Failed
Bit13	Wrong Actuator
Bit14	Ultrasonic P/S
Bit15	Printer Buffer Full
Bit16	Start Switch Closed
Bit17	Pretrigger Timeout
Bit18	<undefined></undefined>
Bit19	Recalibrate Actuator
Bit20	Act Clear Function
Bit21	Stack
Bit22	Start Switches Lost
Bit23	Actuator Type
Bit24	Sys. Pres. Incorrect
Bit25-31	<undefined></undefined>



Cycle Modified Alarms Values

In the data file the Cycle Modified Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	Trigger Lost in Hold
Bit01	Ground Detect Cutoff
Bit02	Maximum Timeout
Bit03	No Amplitude Step
Bit04	No Force Step
Bit05	No Amplitude Step
Bit06	No Force Step
Bit07	No Amplitude Step
Bit08	No Amplitude Step
Bit09	No Force Step
Bit10	No Amplitude Step
Bit11	No Amplitude Step
Bit12	No Force Step
Bit13	Trigger Lost in Weld
Bit14	External Cycle Abort
Bit15	Amp B Not Reached
Bit16	Amp Not Reached
Bit17	Amp A Not Reached
Bit18	Amp B Not Reached
Bit19	Amp Exceeded
Bit20	Energy Not Reached
Bit21	Trigger > End Force
Bit22	No Force Step
Bit23-31	<undefined></undefined>

Note Alarms Values

In the data file the Note Alarm value can represent one or more codes based on its bit-wise value.

Bit Assignment	Alarm Text
Bit00	Act Clr Not Reached
Bit01	Max Energy Reached
Bit02	Printer Buffer 80%
Bit03	Cont Power Limit

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Bit Assignment	Alarm Text
Bit04	Peak Power Cutoff
Bit05	Absolute Cutoff
Bit06	Time Extended
Bit07	Act Recal Suggested
Bit08	Collapse Cutoff
Bit09	Act Clr Not Reached
Bit10-31	<undefined></undefined>

Opening Logging File

- 1. Stop the data collection. For instructions on stopping the data collection, see "Stopping Branson X-Port Data Collection".
- 2. Using a text editor, locate and open the logging file.

Note: InfinityQS recommends that you create a copy of the logging file and open the copy, so you will not interrupt the weld information logging.

If you open the logging file while Branson X-Port is running, Branson X-Port will continue to run normally, but will not log weld information.

3. When finished, start the data collection. For instructions on starting the data collection, see "Starting Branson X-Port Data Collection".

Enabling Data Logging

- 1. Stop the data collection. For instructions on stopping the data collection, see "Stopping Branson X-Port Data Collection".
- 2. In the Branson X-Port menu bar, click **Configuration | Data Logging**. The **Data Logging** dialog box opens.

Data Logging	
🔲 <u>A</u> . Enabled	
<u>B</u> . Data File:	
OK Cancel	

- 3. In the Data Logging dialog box, click the Enabled checkbox.
- 4. Under **Data File**, click the ellipsis button (...). The **Data Logging** browse dialog box opens.



Data Logging					? 🔀
Look jn:	🝛 Local Disk (C:)	•	🗢 🗈 💣 🎟	•
My Recent Documents Desktop My Documents	Documents and Program Files	l Settings			
	File <u>n</u> ame:			•	<u>O</u> pen
My Network	Files of <u>type</u> :	Text Files		•	Cancel
1 10003		C Open as read-only			

- 5. In the **Data Logging** browse dialog box, browse to the desired location of the data logging file.
- 6. In the File name data field, type the name of the logging file. For example, type DataLogging.txt.
- 7. In the Data Logging browse dialog box, click the Open button. The Data Logging browse dialog box closes.

Note: Branson X-Port displays the size of the logging file under **Data File** in the **Data Logging** dialog box.

Data Logging	
☑ <u>A</u> . Enabled <u>B</u> . Data File:	
OK Cancel	

- 8. In the Data Logging dialog box, click OK. The Data Logging dialog box closes.
- 9. When finished, start the data collection. For instructions on starting the data collection, see "Starting Branson X-Port Data Collection".

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Using Branson X-Port

Using this section, you can do the following:

- Starting Branson X-Port Data Collection
- Viewing Branson X-Port Characteristic Distribution
- Integrating Branson X-Port with ProFicient SPC
- Stopping Branson X-Port Data Collection

Starting Branson X-Port Data Collection

- 1. In Branson X-Port, click the **Start** button.
- 2. Branson X-Port collects characteristic data and welder activity data.



Note: Every time you click the **Start** button, Branson X-Port resets alarm codes and welder activity data.

Viewing Branson X-Port Characteristic Distribution

During data collection, you can view the value distribution for a characteristic, as well as other statistics, since data collection started in the current welder profile.

1. To view the distribution, click the ellipsis button (...) in the desired characteristic row.



2. The characteristic distribution dialog box opens.





3. When finished, click the Close button. The characteristic distribution dialog box closes.

Integrating Branson X-Port with ProFicient SPC

By integrating with ProFicient SPC, Branson X-Port enhances its screen display with specification limits and color-coding (red for specification limit violations, yellow for a warning limit violations), and also Branson X-Port can compile weld information into data samples and save them into the ProFicient SPC system.

Note: InfinityQS recommends that you involve members of the quality team when configuring an SPC sampling strategy.

For more information about ProFicient SPC, please contact your InfinityQS representative, refer to the ProFicient reference material, or browse to the http://www.infinityqs.com.

Enabling SPC Sampling

- 1. Stop the data collection. For instructions on stopping the data collection, see "Stopping Branson X-Port Data Collection".
- 2. In the Branson X-Port menu bar, click **Configuration | SPC Sampling**.

Note: If the **Select InfinityQS Data Source** dialog box opens, click the *ProFicient* Data Source Name, click **OK**.

In the User Sign In dialog box, type your ProFicient Sign In Name and your ProFicient Password, and then click OK.

The SPC Sampling dialog box opens.



SPC Sampling		
🔲 <u>A</u> . Enabled		ок
Database		Cancel
<u>B</u> . Data Source:	InfinityQS ProFicient	
<u>C</u> . Part:		
	D. Reselect Part	
<u>E</u> . Process:		
Sampling		
<u>G</u> . Period:	5 Minutes 💌 <u>H</u> . Subgroup Size: 1	
I. Save only cha C. K. Save all all and C. K. Save all all all all all all all all all al		
C K. Save all characteristics		
Alarm Logging		
M. Reject Pa	art Alarms	
<u>N</u> . Suspect F	Part Alarms	
🔲 <u>P</u> . No Cycle	Alarms	
<u>B</u> . Overload Alarms		
S. Equipment Failure Alarms		
L. Cycle Modified Alarms		
U. Note Alar	ms	

3. In the SPC Sampling dialog box, click the Enabled checkbox.

Setting Data Source (DSN)

1. In the SPC Sampling dialog box, locate the Database section.

Database		
<u>B</u> . Data Source:	InfinityQS ProFicient	
<u>C</u> . Part:		
	D. Reselect Part	
<u>E</u> . Process:		

2. In Data Source, click the ellipsis button (...). The Select InfinityQS Data Source dialog box opens.

Select InfinityQS Data Source			
	Select InfinityQS Data Source		
dBASE Files Excel Files InfinityQS ProFicient Examples MS Access Database			
ОК	Cancel		Help

3. In the list of available DSNs, click the *ProFicient* Data Source Name, and then click **OK**. The user sign in dialog box opens.

User Sign In:		
Copyright © InfinityQS International, Inc. All rights reserved.		
Contraction of the local division of the loc		
Change Password		

4. In the User Sign In dialog box, type your ProFicient Sign In Name and your ProFicient Password, and then click OK. The Select InfinityQS Data Source dialog box closes.

Setting Part

When using SPC sampling, you must define the part being welded. When Branson X-Port saves results to InfinityQS ProFicient SPC, the values are associated with the part name, allowing you to group similar weld data based on the part in ProFicient SPC.

1. In the SPC Sampling dialog box, locate the Database section.

Database		
<u>B</u> . Data Source:	InfinityQS ProFicient	
<u>C</u> . Part:		
	D. Reselect Part	
<u>E</u> . Process:		

2. In **Part**, click the ellipsis button (...). The **Part Selection** dialog box opens.

Part Selection	
A. Group:	Colored Parts
<u>B</u> . Item:	Blue Part Yellow Part
	<u>C.</u> Add <u>D</u> . Edit <u>E</u> . Delete
ОК	Cancel Help

- 3. In the **Part Selection** dialog box opens, select the desired group and part in the database by doing the following:
 - In the **Group** data field, click the drop-down list and then click the desired group.
 - In the Item data field, click the desired part.
- 4. When finished, click OK. The Part Selection dialog box closes.
- 5. To allow users to change parts from the Branson X-Port screen, click the **Reselect Part** checkbox.

Note: Use the **Reselect Part** option when you run multiple parts on the same welder.

Setting Process

When using SPC sampling, you must define the process being used. When Branson X-Port saves results to InfinityQS ProFicient SPC, the values are associated with the process name (for example, *Welder #1, Welder #2*, etc.), allowing you to create different control charts within ProFicient SPC to monitor the processes.

1. In the SPC Sampling dialog box, locate the Database section.

Database —		
<u>B</u> . Data Source:	InfinityQS ProFicient	
<u>C</u> . Part:		
	D. Reselect Part	
<u>E</u> . Process:		

2. In Process, click the ellipsis button (...). The Process Selection dialog box opens.

Process Selection	n
A. Group:	Stamping Machines
<u>B</u> . Item:	Stamper #1
	<u>C</u> . Add <u>D</u> . Edit <u>E</u> . Delete
ОК	Cancel Help

3. In the **Process Selection** dialog box opens, select the desired group and process in the database by doing the following:

- In the **Group** data field, click the drop-down list and then click the desired group.
- In the **Item** data field, click the desired process.
- 4. When finished, click **OK**. The **Process Selection** dialog box closes.

Setting Sampling Period

From a statistical standpoint, you only need to collect periodic samples from the continuous data stream, which reduces the quantity of information the quality team must review while providing adequate detail on the current state of the process (welder).

Please consult with your quality team to determine your optimum collection strategy.

1. In the SPC Sampling dialog box, locate the Sampling section.



- 2. In **Period**, type the length of the interval in the data field, click the drop-down list and then click the units (*Seconds, Minutes, Hours*). This defines how frequently Branson X-Port stores quality samples.
- 3. In **Subgroup Size**, type the maximum number of successive weld values that Branson X-Port will compile from the continuous data stream.
- 4. To only save weld attribute characteristics that are displayed, click the Save only characteristics that are displayed in the main screen radio button.

To save all weld attribute characteristics, click the **Save all characteristics** radio button.

Enabling Alarm Logging

If you enable alarm logging, Branson X-Port will save alarm notifications reported by the welder to ProFicient SPC.

1. In the SPC Sampling dialog box, locate the Sampling section.

ΓA	Alarm Logging		
Г	<u>L</u> . Enabled		
	M. Reject Part Alarms		
	N. Suspect Part Alarms		
	🔲 P. No Cycle Alarms		
	<u>B</u> . Overload Alarms		
	S. Equipment Failure Alarms		
	🔲 I. Cycle Modified Alarms		
	🔲 🖳 Note Alarms		

- 2. Under Alarm Logging, click the Enabled checkbox.
- 3. Under the **Enabled** checkbox, click the checkboxes of the alarm categories you want to store.





Closing SPC Sampling Dialog Box

- 1. In the SPC Sampling dialog box, click OK.
- 2. The SPC Sampling dialog box closes.

Stopping Branson X-Port Data Collection

- 1. In Branson X-Port, click the **Stop** button.
- 2. Branson X-Port stops collecting characteristic data and welder activity data.



Troubleshooting

Testing Connection

Using this section, you can verify the IP connection to the Branson 2000 or 2000X Power Supply.

- **Note:** In the example below, we use Microsoft HyperTerminal to test the connection, which is no longer available in the latest versions of Windows. Please use these instructions as a guide with any third party monitoring software (for example, PuTTy) when testing your connection. For assistance, please contact your IT department.
- On the Branson X-Port workstation, click Start | Programs | Accessories | Communications | HyperTerminal. The New Connection – HyperTerminal opens.
- 2. In the Connection Description dialog box, type the following: BransonTest

and then click OK. The Connect To dialog box opens.

- 3. In the **Connect To** dialog box, click the **Connect using** drop-down, and then click *TCP/IP* (*Winsock*). The **Connect To** dialog box changes to allow entry of TCP/IP connection information.
- 4. In the Host address data field, type the IP Address of the Branson 2000X Power Supply.
- 5. In the **Port number** data field, type 4000.

Connect To	? 🛛	
Sranson Test		
Enter details for	the host that you want to call:	
<u>H</u> ost address:	127.0.0.0	
Port nu <u>m</u> ber:	4000	
Co <u>n</u> nect using:	TCP/IP (Winsock)	
	OK Cancel	

Note: The **Host address** and **Port number** is the same as the **IP Address** and the **ID Port** that you entered in the **Equipment Settings** dialog box above.

 In the Connect To dialog box, click OK. If successful, the HyperTerminal session shows the data stream from the Branson 2000X Power Supply.





If unsuccessful, please contact your IT department or Branson technical support for assistance with connecting to the Branson 2000X Power Supply.

- 7. In the BransonTest HyperTerminal menu bar, click File | Exit. The HyperTerminal save prompt opens.
- 8. In the HyperTerminal save prompt, click No. The BransonTest HyperTerminal closes.

Error: Unable to resolve End of Transmission

If you are receiving the following error:

```
DATE: 00/00/00
TIME: 00:00:00
PROCEDURE: BransonUsw.Winsock1_DataArrival
ERROR CODE: 80040000
ERROR DESCRIPTION: Unable to resolve End of Transmission
ERROR DETAILS:
BransonUsw.ProcessDataStream
BransonParser.GetFunction
BransonParser.ProcessBlock
iiBransonXPort
```

Perform the following procedures:

- 1. Shut down the Branson X-Port, and then restart the Branson X-Port. For instructions on stopping and starting Branson X-Port, see "Opening and Closing Branson X-Port".
- 2. In the configuration screen of the welder's main menu, set the welder address to OFF.