Operator's Manual

McELROY

www.mcelroy.com

Fusion Joint DataLogger®

DataLogger® 4

Original Language: English

Manual: DL13601 Revision: C 8/14

This product and other products could be protected by patents or have patents pending. All the latest patent information is available at patent.mcelroy.com

Introduction

Thank You for purchasing this McElroy product.

McElroy's DataLogger® 4 system uses the Trimble® Nomad® computer with a pressure sender to record information in the making of pipe fusion joints. The DataLogger 4 pressure sender reads pressures up to 3000 psi. The DataLogger 4 is compact, it logs a report for one joint and stores it on the Nomad computer. The DL4m software is available in 5 languages and has FusionGuide™ visual assistant that color codes the produced graphs for better interpretation.

The McElroy DataLogger® 4 system consists of a pressure sender, the Nomad computer, and optional accessories. In addition to providing a user interface, the Nomad is capable of storing hundreds of reports limited only by its memory capacity. For example, a computer with 20MB of user accessible memory can store up to 10,000 reports that are 2Kbytes in length. (Note: although the computer has the capacity, you are strongly advised to backup your report data to a Desktop PC or secondary storage device).

IMPORTANT: Please take every precaution to safeguard your joint reports. Make backups often. McElroy cannot guarantee the safety and integrity of joint reports beyond the specification of component manufacturers and the handling of equipment in the field.

TX04387-2-29-12

McElroy University

For more than 30 years, McElroy has been the only pipe fusion machine manufacturer to continuously offer advanced training. Course offerings are meant to enhance your efficiency, productivity and safety in the proper use of McElroy machines. McElroy University classes are structured so that the skills learned and the machines used in each class closely match the machines found on pipelining jobsites. We offer training at our facility or yours. Our uniquely qualified McElroy University course instructors offer years of industry experience.

Tuition for each course includes lunches, course materials and a certificate of completion. Online registration, as well as up-to-date course offerings and dates, is available at **www.mcelroy.com/university**

This manual is intended as a guide only and does not take the place of proper training by qualified instructors. The information in this manual is not all inclusive and can not encompass all possible situations that can be encountered during various operations.

TX04659-03-24-14

MU2-03-13-14

Warranty

LIMITED WARRANTY

McElroy Manufacturing, Inc. (McElroy) warrants all products manufactured, sold and repaired by it to be free from defects in materials and workmanship, its obligation under this warranty being limited to repairing or replacing at its factory and new products, within **3 years** after shipment, with the exception of purchased items (such as electronic devices, pumps, switches, etc.), in which case that manufacturer's warranty applies. Warranty applies when returned freight is prepaid and which, upon examination, shall disclose to have been defective. This warranty does not apply to any product or component which has been repaired or altered by anyone other than McElroy or has become damaged due to misuse, negligence or casualty, or has not been operated or maintained according to McElroy's printed instructions and warnings. This warranty is expressly in lieu of all other warranties expressed or implied. The remedies of the Buyer are the exclusive and sole remedies available and Buyer shall not be entitled to receive any incidental or consequential damages. Buyer waives the benefit of any rule that disclaimer of warranty shall be construed against McElroy and agrees that such disclaimers herein shall be construed liberally in favor of McElroy.

RETURN OF GOODS

Buyer agrees not to return goods for any reason except upon the written consent of McElroy obtained in advance of such return, which consent, if given, shall specify the terms and conditions and charges upon which any such return may be made. Materials returned to McElroy, for warranty work, repair, etc., **must have a Return Material Authorization (RMA) number**, and be so noted on the package at time of shipment. For assistance, inquiry shall be directed to:

McElroy Manufacturing, Inc.
P.O. Box 580550
833 North Fulton Street Tulsa, Oklahoma 74158-0550

PHONE: (918) 836–8611, FAX: (918) 831–9285.
EMAIL: fusion@McElroy.com

Note: Certain repairs, warranty work, and inquiries may be directed, at McElroy's discretion, to an authorized service center or distributor.

DISCLAIMER OF LIABILITY

McElroy accepts no responsibility of liability for fusion joints. Operation and maintenance of the product is the responsibility of others. We recommend qualified joining procedures be followed when using McElroy fusion equipment.

McElroy makes no other warranty of any kind whatever, express or implied; and all implied warranties of merchantability and fitness for a particular purpose which exceed the aforestated obligation are hereby disclaimed by McElroy.

PRODUCT IMPROVEMENT

McElroy reserves the right to make any changes in or improvements on its products without incurring any liability or obligation to update or change previously sold machines and/or the accessories thereto.

INFORMATION DISCLOSED

No information of knowledge heretofore or hereafter disclosed to McElroy in the performance of or in connection with the terms hereof, shall be deemed to be confidential or proprietary, unless otherwise expressly agreed to in writing by McElroy and any such information or knowledge shall be free from restrictions, other than a claim for patent infringement, is part of the consideration hereof.

PROPRIETARY RIGHTS

All proprietary rights pertaining to the equipment or the components of the equipment to be delivered by McElroy hereunder, and all patent rights therein, arising prior to, or in the course of, or as a result of the design or fabrication of the said product, are exclusively the property of McElroy.

LAW APPLICABLE

All sales shall be governed by the Uniform Commercial Code of Oklahoma, U.S.A.

Register your product online to activate your warranty:www.McElroy.com/fusion

(Copy information listed on the machine nameplate here for your records).

Model No. _____

Serial No. _____

Date Received _____

Distributor _____

Table of Contents

Equipment Safety

Safety Alerts 1-1
Read and Understand 1-1
General Safety 1-2
Wear Safety Equipment 1-2
Equipment is Not Explosion Proof 1-2
Units With Hydraulics. 1-3
Heater is Hot. 1-3
Fusion Machine Procedures. 1-3

Overview

The Datalogger® 4 2-1
Pressure Sender. 2-1
Connecting to a Fusion Machine 2-1
Trimble® Nomad® Computer 2-2

Operation

Introduction. 3-1
Main Menu. 3-2
Setting up to Log a Joint 3-2

DL4c Software User's Guide

Introduction. 4-1
Microsoft® Software (for transferring joint reports) 4-1
McElroy Software (for viewing, printing, and analyzing joint reports) . . 4-2
Transferring Joint Reports with Windows® Mobile Device Center (Window® 7 and Vista®). 4-5
View Joint Reports with the McElroy DL4c. 4-9
Transferring Joint Reports with Microsoft® Active Sync for Windows® XP. 4-14

Maintenance

Usage and Care 5-1
No User Serviceable Parts 5-2
Calibration 5-2

Specification

McElroy Datalogger® 4 6-1

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TX04402-2-29-12

Equipment Safety

Safety Alerts

This hazard alert sign appears in this manual. When you see this sign, carefully read what it says. YOUR SAFETY IS AT STAKE.

You will see the hazard alert sign with these words: DANGER, WARNING, and CAUTION.

WR00051-11-30-92

DANGER Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

In this manual you should look for two other words: **NOTICE** and **IMPORTANT**.

NOTICE: can keep you from doing something that might damage the machine or someone's property. It may also be used to alert against unsafe practices.

IMPORTANT: can help you do a better job or make your job easier in some way.

TX00030-12-1-92

Read and Understand

Do not operate this equipment until you have carefully read, and understand all the sections of this manual, and all other equipment manuals that will be used with it.

Your safety and the safety of others depends upon care and judgment in the operation of this equipment.

Follow all applicable federal, state, local, and industry specific regulations.

McElroy Manufacturing, Inc. cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the machine are therefore not all inclusive. You must satisfy yourself that a procedure, tool, work method, or operating technique is safe for you and others. You should also ensure that the machine will not be damaged or made unsafe by the method of operation or maintenance you choose.

WR00052-12-1-92

TX02946-4-15-09

Equipment Safety

General Safety

Safety is important. Report anything unusual that you notice during set up or operation.

LISTEN for thumps, bumps, rattles, squeals, air leaks, or unusual sounds.

SMELL odors like burning insulation, hot metal, burning rubber, hot oil, or natural gas.

FEEL any changes in the way the equipment operates.

SEE problems with wiring and cables, hydraulic connections, or other equipment.

REPORT anything you see, feel, smell, or hear that is different from what you expect, or that you think may be unsafe.

SAFE1ST-12-22-92

TX00114-4-22-93

Wear Safety Equipment

Wear a hard hat, safety shoes, safety glasses, and other applicable personal protective equipment.

Remove jewelry and rings, and do not wear loose-fitting clothing or long hair that could catch on controls or moving machinery.

WR00053-12-2-92

TX00032-4-7-93

Equipment is Not Explosion Proof

⚠ DANGER DataLogger® equipment is not explosion proof. Operation of equipment in an explosive atmosphere may result in serious injury or death.

Do not operate this equipment in an explosive atmosphere.

WR00034-11-30-92

TX04388-05-23-14

Units With Hydraulics

For hydraulically operated equipment, it is important to remember that a sudden hydraulic oil leak can cause serious injury, or even be fatal if the pressure is high enough.

⚠WARNING Escaping fluid under pressure can penetrate the skin causing serious injury. Keep hands and body away from pinholes which eject fluid under pressure. Use a piece of cardboard or paper to search for leaks. If any fluid is injected into the skin, it must be immediately removed by a doctor familiar with this type of injury.

NOTICE: Wear safety glasses, and keep face clear of area when bleeding air from hydraulic system to avoid spraying oil into eyes.

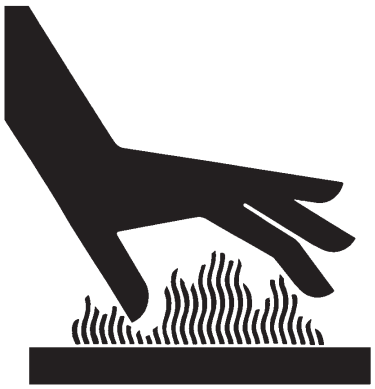
WR000784-8-93

TX03077-2-16-10

Heater Is Hot

⚠CAUTION The heater is hot and will burn clothing and skin. Keep the heater in its insulated heater stand or blanket when not in use, and use care when heating the pipe.

NOTICE: Use only a clean non-synthetic cloth such as a cotton cloth to clean the heater plates.



WR00030-2-10-93

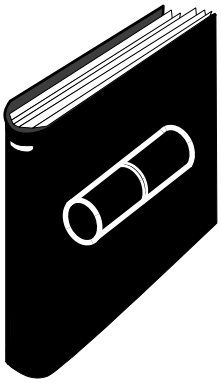
TX00104-8-12-94

Fusion Machine Procedures

Familiarize yourself with the fusion machine you will be working with by reading the Manufacturer's manuals for the machine. Read the Safety Information to avoid potentially dangerous situations.

NOTICE: Follow the pipe manufacturer's procedures or appropriate joining standard for fusing the pipe being used.

Failure to adhere to proper machine and fusion procedures can result in damage to the machine and bad fusion joints.



WR00079-2-7-96

TX04403-3-2-12

Overview

The DataLogger® 4

McElroy's DataLogger® 4 system uses the Trimble® Nomad® computer with a pressure sender to record information in the making of pipe fusion joints. The DataLogger 4 pressure sender reads pressures up to 3000 psi. The DataLogger 4 is compact, it logs a report for one joint and stores it on the Nomad computer. The DL4m software is available in 5 languages and has FusionGuide™ visual assistant that color codes the produced graphs for better interpretation.

TX04389-2-29-12

Pressure Sender

The pressure sender is connected to the Nomad computer via a cable. The cable can be replaced easily by unscrewing from both ends. The pressure sender taps into the hydraulic system of a fusion machine via a quick-disconnect. Pressure reading is displayed on the computer screen as long as the Nomad is turned on and communicating with the pressure sender. The serial number and pressure rating of the sender is engraved on the pressure sender.

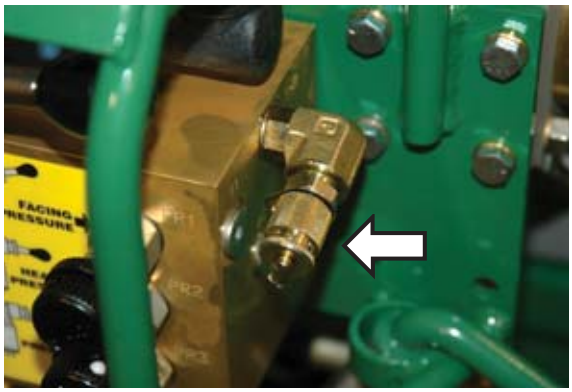
NOTICE: Do not store pressure probe with adapter fitting(s) attached. Stored pressure can damage the pressure sender.

PH04659-2-8-12

TX04390-2-29-12

Connecting To A Fusion Machine

NOTICE: The fusion machine must have a hydraulic quick disconnect for connecting the pressure sender. If the machine does not have one, contact your distributor for the proper adapter or retrofit kit.



PH03026-4-13-05

TX04391-2-29-12

Trimble® Nomad® Computer

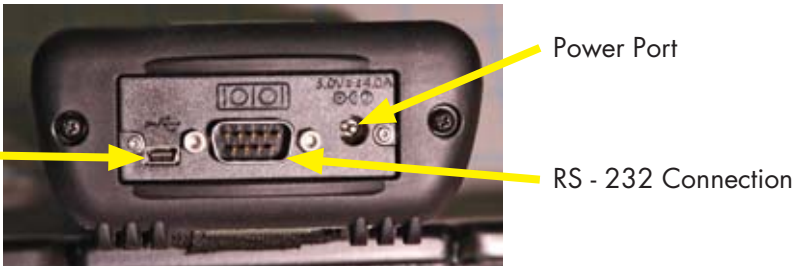
The Nomad is a compact and rugged handheld computer with a high resolution screen and runs the Windows® operating system.

The software program **McElroy DL4m** runs on the Nomad to provide user interface and joint report storage. The DL4m is pre-installed with English, Spanish, Portuguese (Brazilian), Russian, and Chinese (Simplified) languages.

The Nomad computer has the Windows® operating system available in several different languages. Each Nomad is setup at the factory and ready to log data.

PH04658-2-8-12

Left Soft Button	Makes the left selection at the bottom of the screen.
Right Soft Button	Makes the right selection at the bottom of the screen.
Windows® Button	This button is not used with the DL4m software.
OK Button	This button is not used with the DL4m software.
Arrow Pad	Four directional buttons for navigating and changing values.
Enter Button	Confirms selections in the software.
Quick Launch Button	This button is not used with the DL4m software.
Power Button	Quick press turns off the Nomad. Hold for 1 second to turn off the backlight. Hold for 5 seconds for the utility/reset menu. (The Power Button will not function during the logging process.)



PH04663-2-8-12

TX04392-2-29-12

Introduction

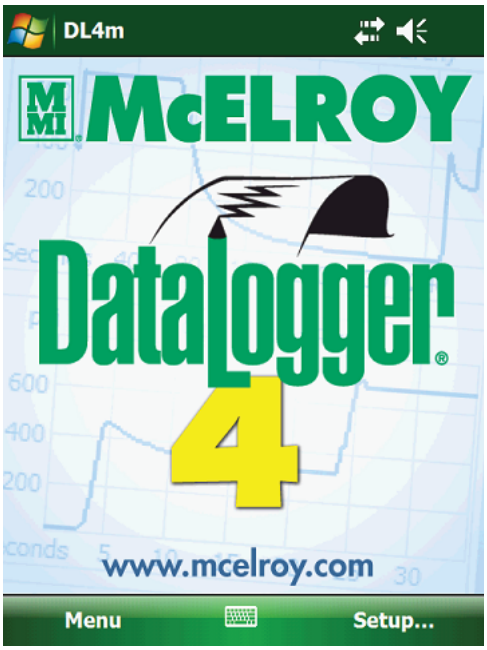
The 4th generation McElroy DataLogger software DL4m features multi-language user interface for Trimble® Nomad® mobile computers running Microsoft® Windows Mobile operating system in multiple languages. Currently the DL4m software supports English, Spanish, Portuguese (Brazilian), Russian, and Chinese (Simplified). The Trimble Nomad computer comes in other languages including French, German, Italian, Japanese, and Korean.

DL4m introduced push button access for most frequently used functions to reduce wear on the touch screen.

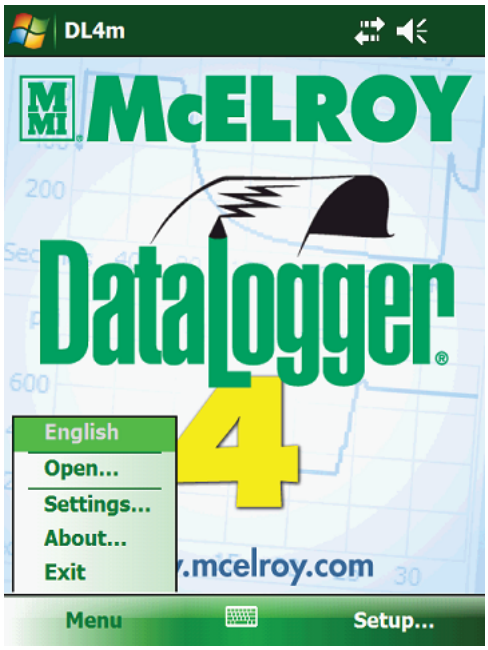
The McElroy DataLogger Trimble Nomad comes with McElroy default settings and the DL4m software preloaded.

Menu items can be accessed by the tapping corresponding text label on the screen or by pushing the buttons on the keypad. For instance to access the **Settings...** menu item, push the **Left Soft Key** below the word **Menu** to reveal the DL4 menu then use the **Up/Down Keys** to navigate to **Settings...** then push **Enter**:

Access to program settings and logging starts from the main screen:



PH04608-12-13-11



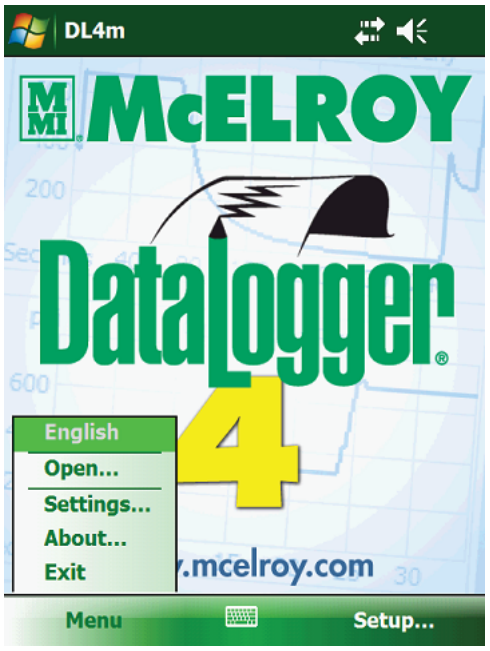
PH04609-12-13-11

TX04393-2-29-12

Main Menu

1) **English** - When a language other than English is used and the "Toggle to English" feature is enabled, this menu item toggles the display language to English.
2) **Open...** - Open a previously saved joint report for viewing.
3) **Settings...** - Change program settings:
   a) Display language: English, Spanish, Portuguese, Russian, Chinese (Simplified)
   b) Pressure units: psi, bar, kg/cm², MPa
   c) Temperature units: °F, °C
4) **About...** - Display the software and firmware version, copyright information, computer serial number and pressure calibration date and time.
5) **Exit** - Exit the DL4m software.

TX04394-2-29-12



PH04609-2-13-12

Setup to Log a Joint

From the main screen, tap **Setup...** or push the **Right Soft Key** to begin.

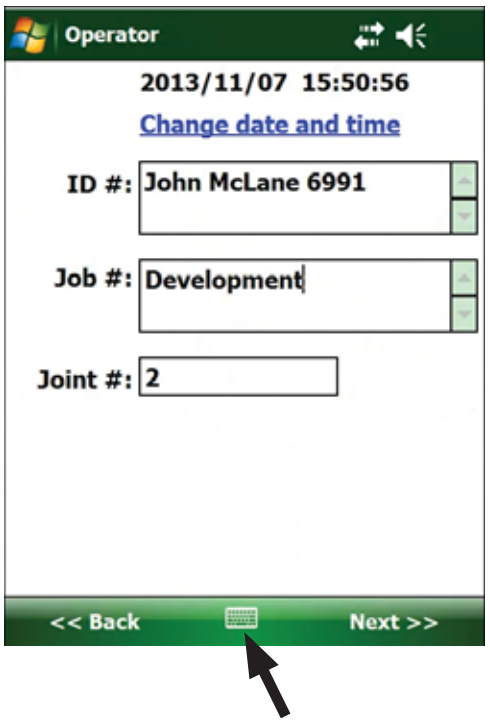
Always make sure the time and date are correct before making a joint. If time and date need adjustment, tap **Change Date and Time**.

Use the stylus to activate the onscreen keyboard by tapping the keyboard symbol.

Operator ID and Job # can be letters or numbers up to 30 characters each.

Joint # is digits-only, and it auto-increments after each completed joint.

Tap **Next > >** or push the **Right Soft Key** to setup machine, fusion type, and specification.



PH04976-11-14-13

Setup to Log a Joint (cont'd)

Enter machine ID using the stylus and onscreen keyboard.

Select a machine model or choose **Unlisted** to enter a machine number and piston area.

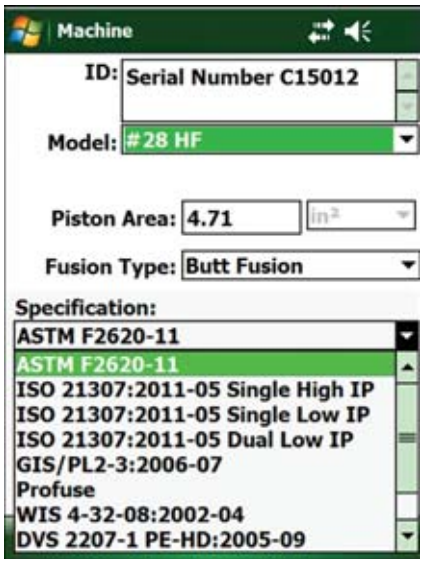
Select a fusion type: Butt Fusion, Sidewall, or Dual Containment.

Select a fusion standard or specification.

Common specifications come preloaded: ASTM, ISO, UK, or DVS.

An **Other** selection allows for generic fusion calculation not based on an industry standard.

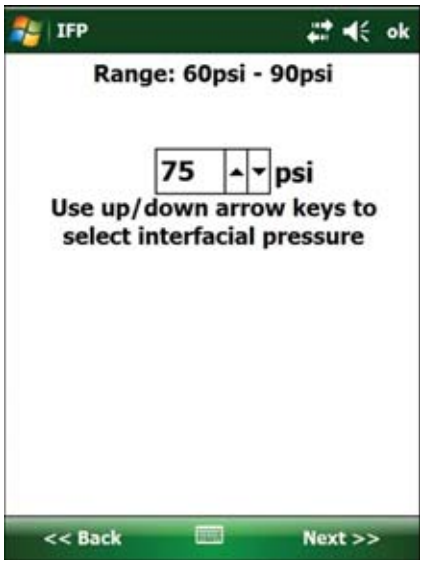
Tap **Next >>** to enter interfacial pressure.



PH04977-11-14-13

When the ASTM fusion standard is selected, the interfacial pressure (IFP) can be varied between 60psi and 90psi using the up/down arrow keys on the keypad.

Tap **Next >>** to enter pipe material and size information.



PH04978-11-14-13

Select a pipe material from the list or enter an **Unlisted** material.

Enter pipe size and select the corresponding units. These numbers affect the fusion parameter calculations.

Tap **Next >>** to enter optional Notes about the joint.

PH04979-11-14-13

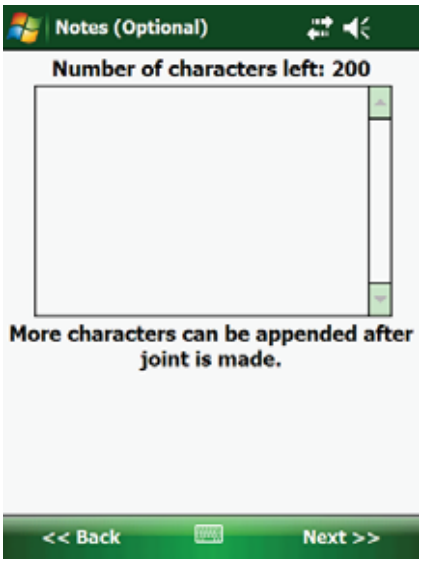
Setup to Log a Joint (cont'd)

Enter notes about the joint (optional)

More characters can be appended after the joint is made.

(The use of the stylus is not required after this screen)

Tap **Next >>** to measure drag pressure.



PH04614-2-13-12

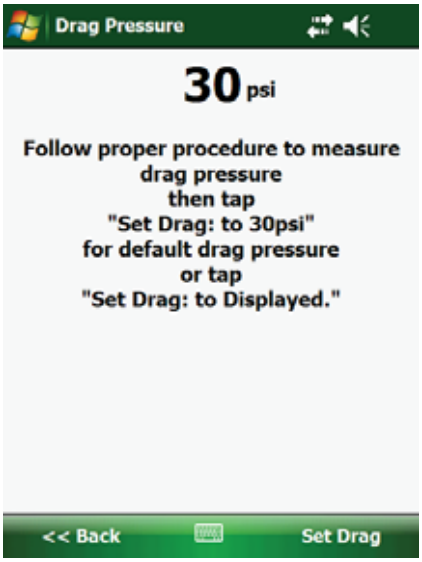
Follow drag pressure measurement procedures from the fusion machine operator's manual.

Press the **Right Soft Key** to select Set Drag.

Use the **Up/Down** arrow keys to select the default 30 psi drag pressure or the measured and displayed pressure at the top of the screen.

Press the **Enter** key to register the intended drag pressure.

Tap **Next >>** to review the recommended fusion pressures and times and prepare machine to fuse pipe.

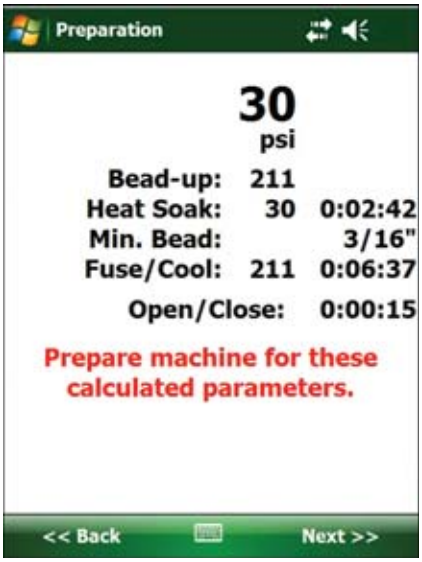


PH04615-2-13-12

Review the recommended fusion pressures and times and prepare machine to fuse pipe.

This example shows ASTM specified nominal pressures, minimum cycle times, bead size after heat soaking the pipe, and maximum carriage open/close time for heater removal.

Tap **Next >>** to record heater temperature.



PH04981-11-14-13

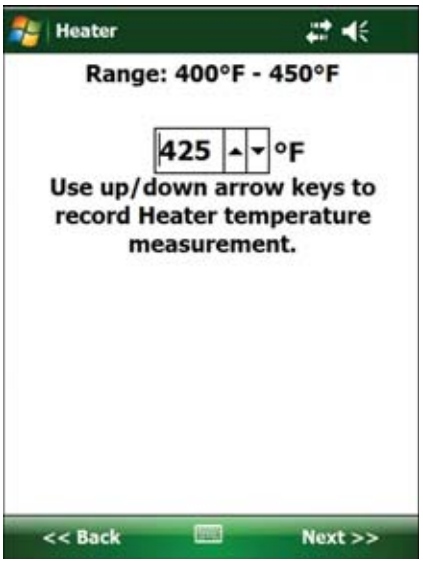
Setup to Log a Joint (cont'd)

Measure the heater temperature using a user provided pyrometer.

Press the **Up/Down** keys to change heater temperature reading based on the temperature measured.

When the reading is below the specification lower limit, the background turns blue indicating temperature too low. When the reading is above the specification upper limit, the background turns red indicating temperature too high.

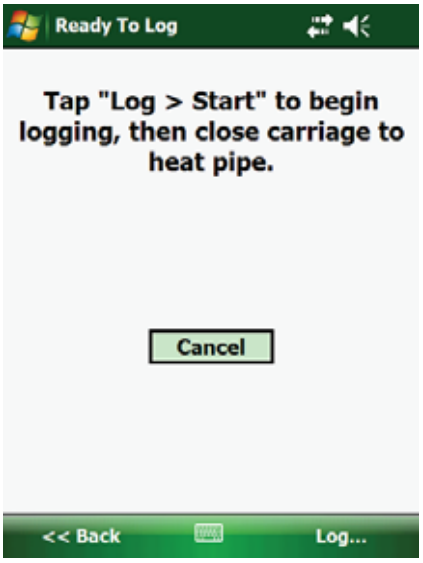
Tap **Next >>** to get ready to log a joint.



PH04982-11-14-13

Make sure pipe ends are properly faced and heater is securely placed in the fusion machine between two pipe ends.

Press the **Right Soft Key** then **Enter** or tap **Log...** and then **Start** to begin logging then close the carriage to heat pipe.



PH04619-2-13-11

If necessary, press **<< Back** to review or change settings on previous screens or tap **Cancel** to go back to the main DataLogger screen.

While logging a joint, the number of data points logged is displayed, along with the elapsed time, the current pressure reading, the various pressures, times, bead size, and open/close time.

A stop watch at the lower left corner can be used to time the various fusion cycles. Pressing the **Left Soft Key** or tapping **Reset SW** resets the stopwatch count.

At the end of the fusion, press the **Right Soft Key** then **Enter** or tap **Stop** then **Yes** to stop logging.

PH04984-11-14-13

Setup to Log a Joint (cont'd)

Joint Report

Joint Report page 1 is displayed when logging is completed.
This page shows:
1. Date and Time
2. Joint Number
3. Job Number
4. Operator
5. Machine ID
6. Model of Machine
7. Piston Area of Machine
8. Pipe: Type with size

Tap **Next >>** or press the **Right Soft Key** to go to page 2.

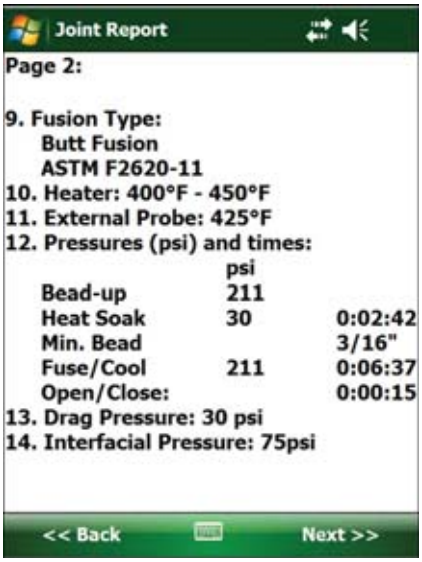
Tap **<< End** or press the **Left Soft Key** to go back to the main DataLogger screen.

PH04985-11-14-13

Joint Report page 2 is displayed.
This page shows:
9. Fusion Type with Standard used
10. Heater Temperature Range
11. External Probe Measurement
12. Specification Pressures and Times
13. Recorded Drag Pressure
14. Interfacial Pressure

Tap **Next >>** or press the **Right Soft Key** to go to page 3.

Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.

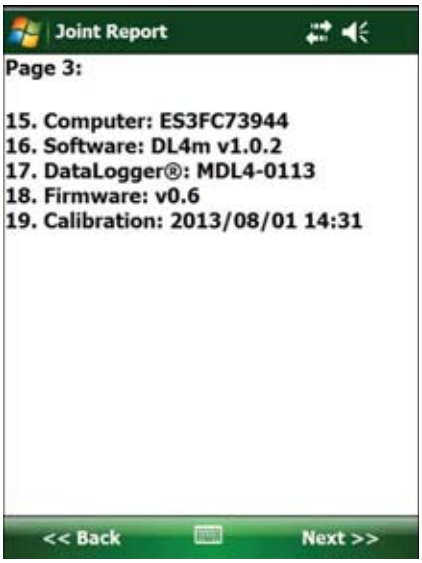


PH04986-11-14-13

Joint Report page 3 is displayed.
This page shows:
15. Computer Serial Number
16. Software and Version Number
17. DataLogger Serial Number
18. Pressure Sender Firmware Version
19. Calibration Date

Tap **Next >>** or press the **Right Soft Key** to go to page 4.

Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.



PH04987-11-14-13

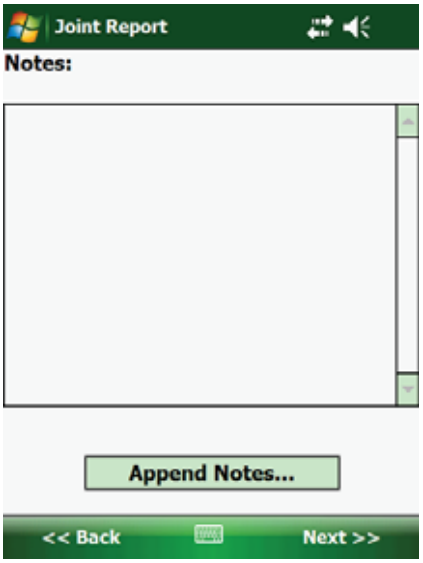
Setup to Log a Joint (cont'd)

Joint Report Notes page allows viewing of the notes entered prior to the joint being made, and the ability to append more notes to the joint report.

To append more notes, tap the **Append Notes...** button on the screen.

Tap **Next >>** to view the Front-end Plot

Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.



PH04626-2-13-12

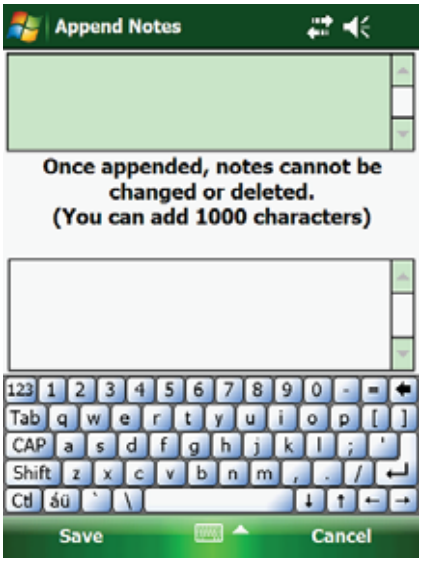
The top box is read-only and it shows notes entered previously.

The bottom box is where characters for the new notes can be entered. A total of 1000 characters are allowed per joint report. New notes entered in this box will be appended to notes in the read-only box above.

Use the scroll bar on the right side of the text boxes to scroll through long messages.

After notes are entered, tap **Save** or press the **Left Soft Key** to save the new notes.

Otherwise tap **Cancel** to discard the new notes and exit the Append Notes screen without saving.



PH04627-2-13-12

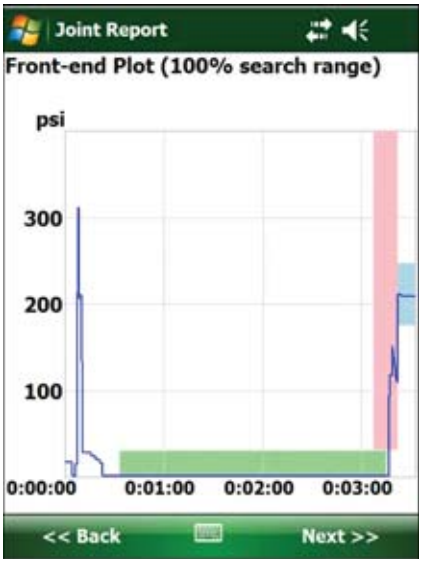
Setup to Log a Joint (cont'd)

NOTE: This is only a demonstration. Data used is fictitious and for demonstration purposes only. Do not use this graph as a benchmark for inspecting other fusion joints. There are several factors that determine what a graph should look like and all graphs will not look exactly the same. Training and resources are available to assist in how to interpret a graph.

The appearance of joint reports varies due to several factors, but their basic profile resembles the following samples:

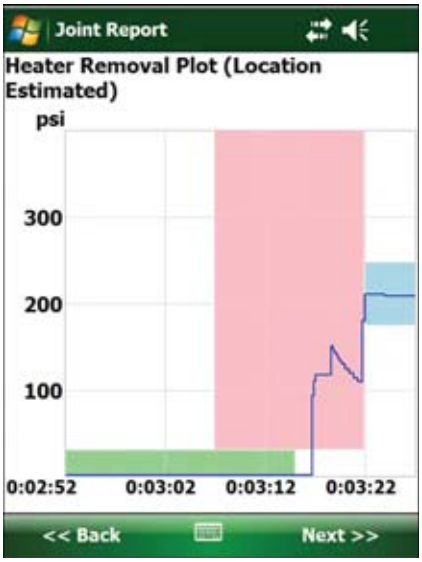
The DataLogger 4 features FusionGuide™ which applies shaded areas to the plots in order to quickly determine whether a logged fusion joint is within the selected fusion specification. The shaded areas highlight the heat soak time (green), open/close time (red), and fuse/cool time (blue).

The front-end plot of the report highlights the soak cycle during which the pipe ends are heat-soaked.



Tap **Next >>** or press the **Right Soft Key** to view the Heater Removal Plot.

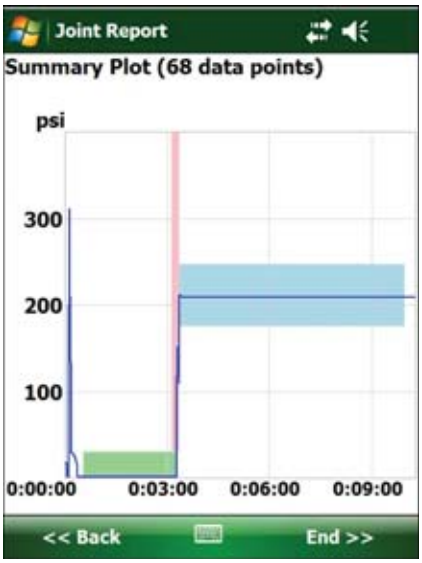
Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.



The Heater Removal Plot estimates the carriage open/close time period.

Tap **Next >>** or press the **Right Soft Key** to view the Summary Plot.

Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.



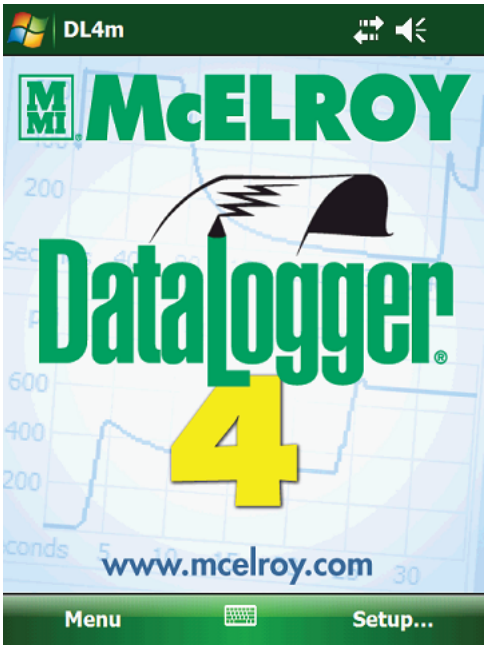
The Summary Plot shows the entire fusion process.

Tap **End >>** or press the **Right Soft Key** to end viewing the current joint report and back to the main screen.

Tap **<< Back** or press the **Left Soft Key** to go back to the previous page.

Setup to Log a Joint (cont'd)

Once back at the main screen, you may prepare to make another fusion joint by pressing the **Right Soft Key** or tapping **Setup...**



PH04608-12-13-11

Data from the previous joint may be carried over to reduce data entry for the next joint saving time at the jobsite.

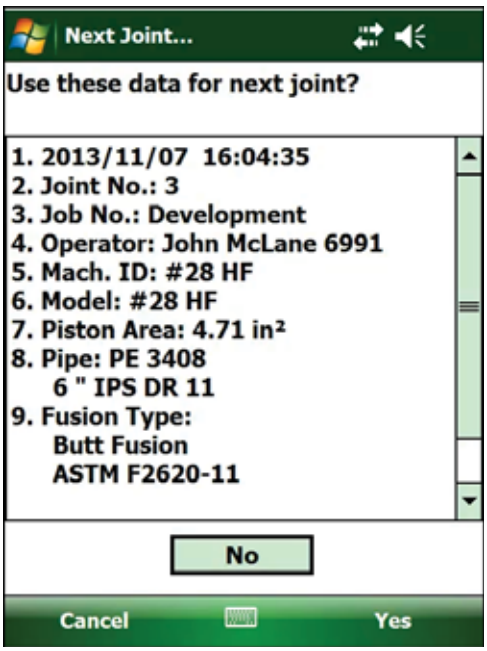
Time and date are automatically updated for the next joint. Joint number is also automatically incremented after each joint.

Use the scroll bar on the side to review more data about the next joint.

Press the **Right Soft Key** to select Yes and start a new joint.

Press the **Left Soft Key** to select Cancel to go back to main screen.

Tap **No** to enter new data for the next joint.



PH04991-11-14-13

TX04395-11-19-13

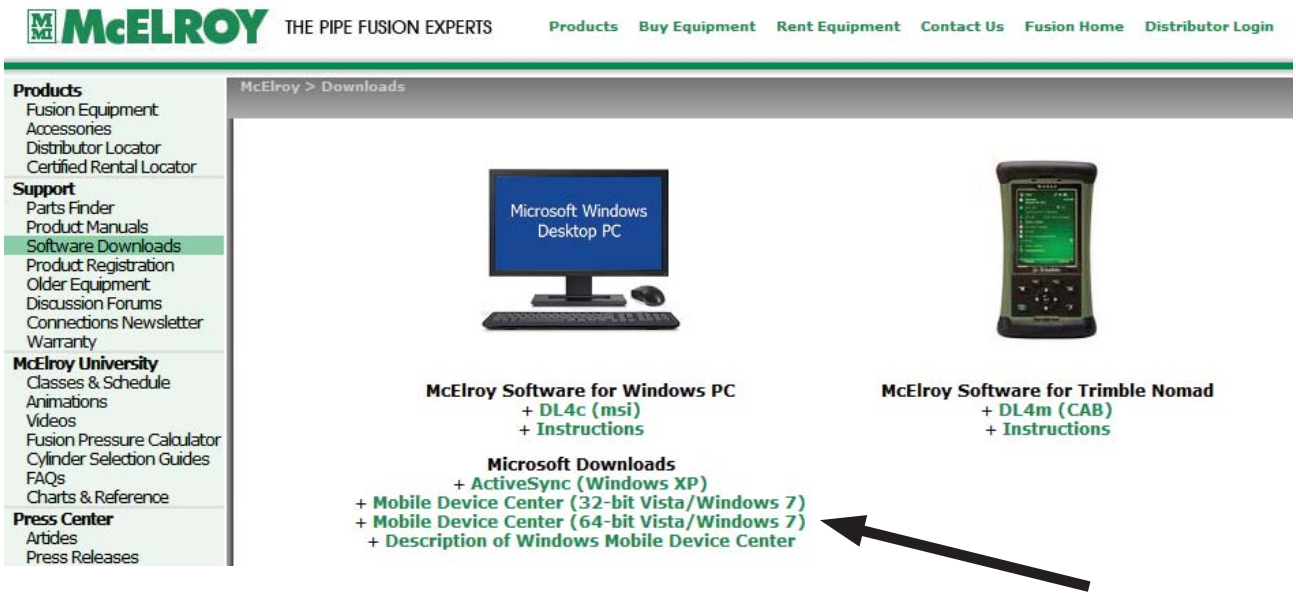
DL4c Software User's Guide

Introduction

McElroy DataLogger 4 joint reports can be viewed, printed, and analyzed on a Windows® PC using the DL4c software. Joint reports are transferred from the DataLogger 4 to your PC using the Microsoft® Windows® Mobile Device Center (for Windows® 7 or Vista®) or Microsoft® ActiveSync® (for Windows® XP).

Microsoft Software (for transferring joint reports)

There are different versions of Microsoft® Windows® operating systems in circulation: Windows® XP, 32-bit and 64-bit versions of Windows® Vista® and Windows® 7. First, find out which operating system your computer runs and then visit http://www.mcelroy.com/fusion/support/index.htm to download the corresponding Microsoft® software.



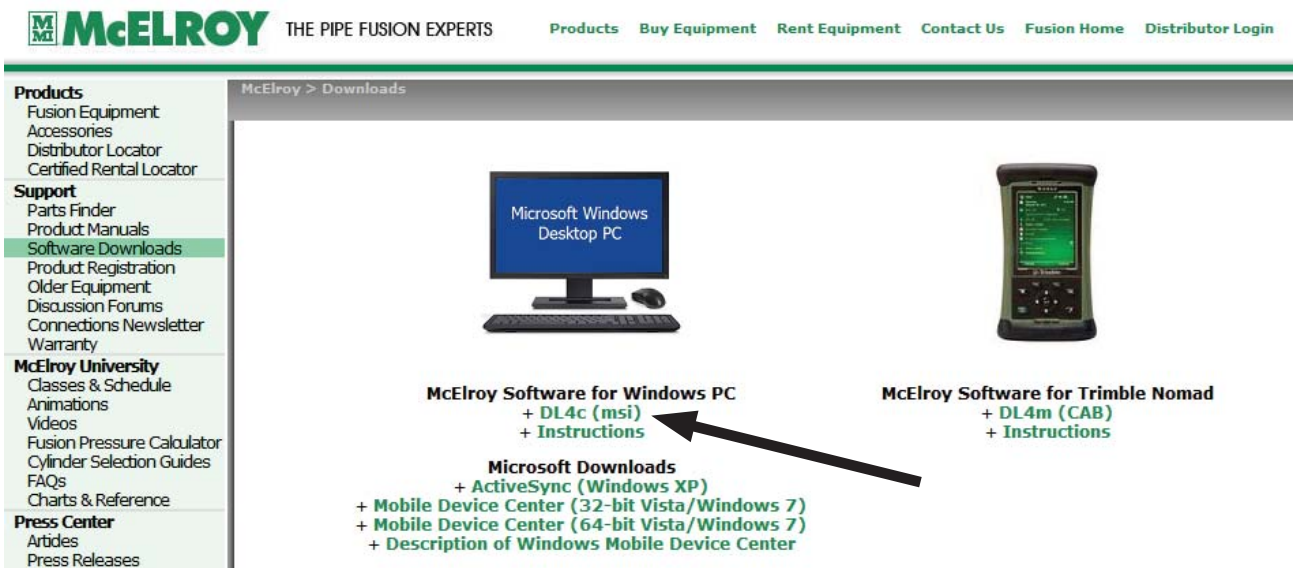
PH04639-1-24-12

Save and then run your downloaded Microsoft® software and follow the installation instructions. Installations may take a few minutes, so it is best to wait and make sure installation is complete before moving on. "Device Not Found" error near the end of the installation can be ignored because the operating system is looking for a device that is not yet connected to the PC.

DL4c Software User's Guide

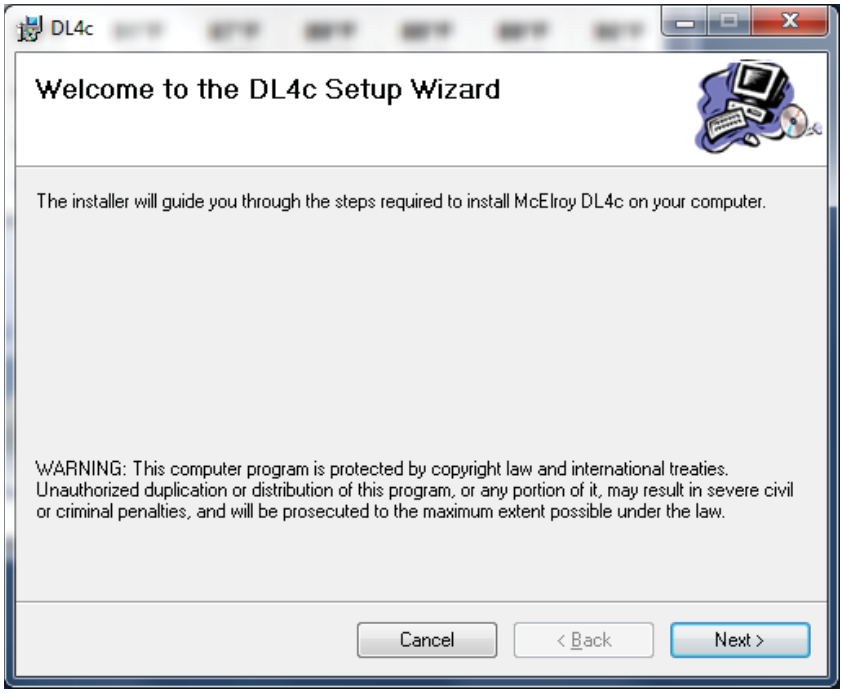
McElroy Software (for viewing, printing, and analyzing joint reports)

To install DL4c on your Windows PC, please visit
http://www.mcelroy.com/fusion/support/index.htm



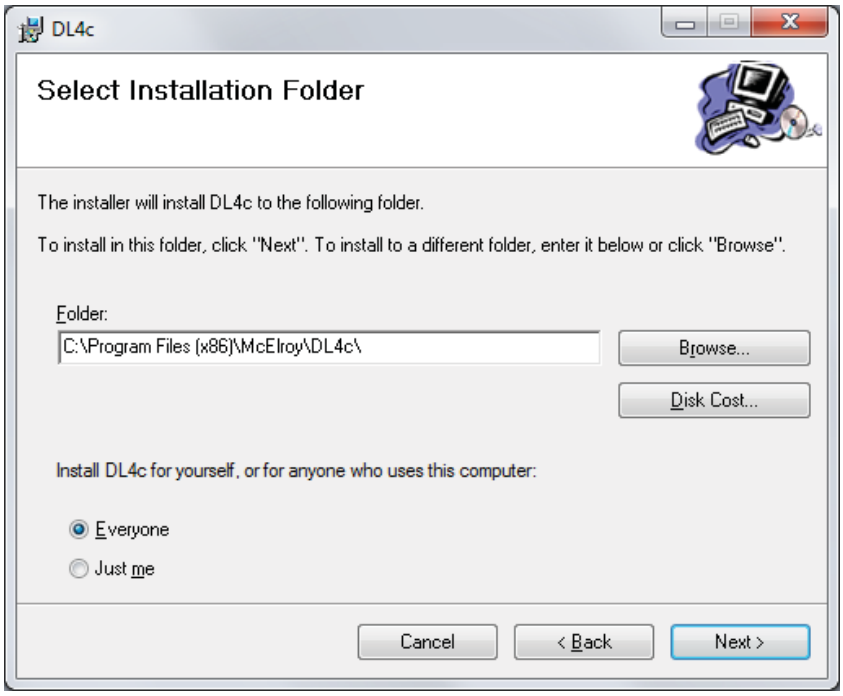
PH04639-1-24-12

Click on **DL4c (msi)** and save it to your desktop then run the setup program. (You may be prompted to install Microsoft .NET Framework if it is not already installed on your PC).

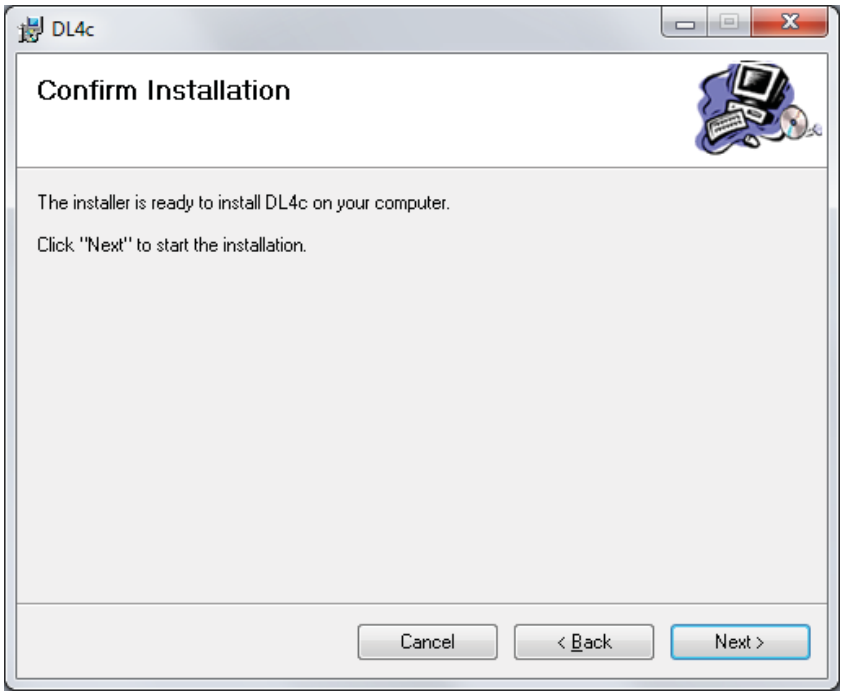


PH04640-1-24-12

DL4c Software User's Guide

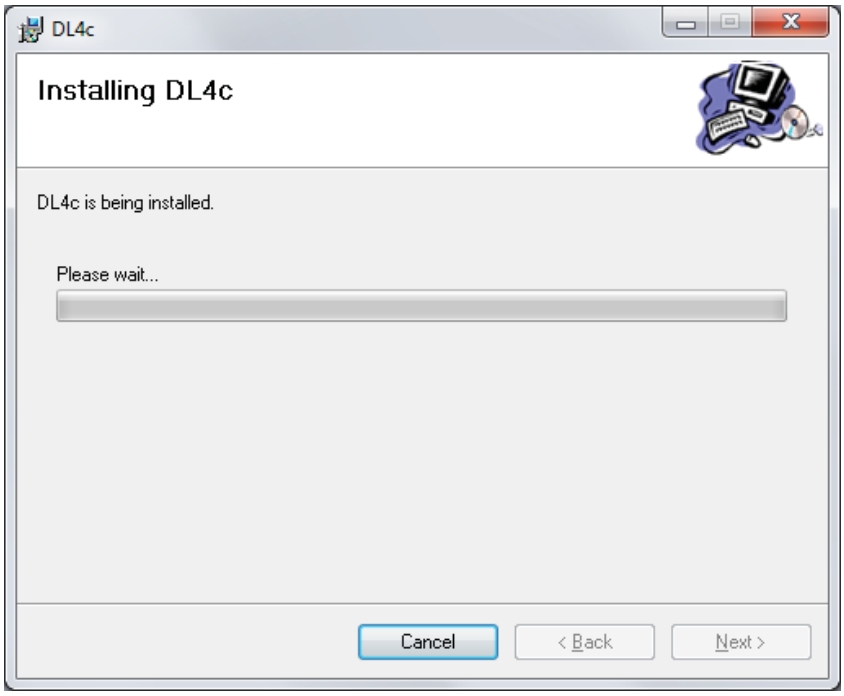


PH04641-1-24-12



PH04642-1-24-12

DL4c Software User's Guide



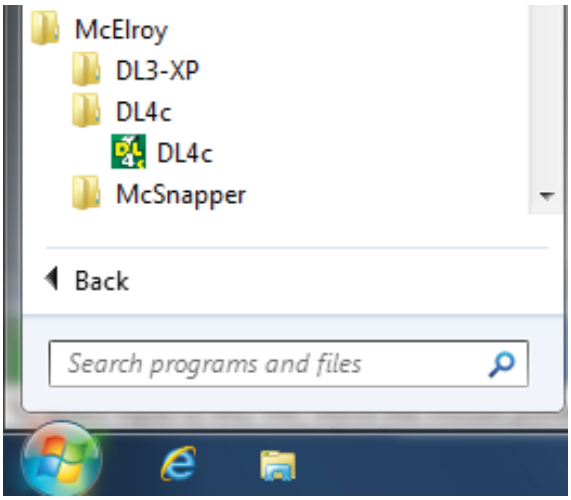
PH04643-1-24-12

In some cases, you may be asked to give permission to install the DL4c on your computer. Click "Yes" to continue.

At the end of setup, you'll find a desktop icon.

PH04644-1-24-12

You will also find a program group in your Windows Start Menu.



PH04645-1-24-12

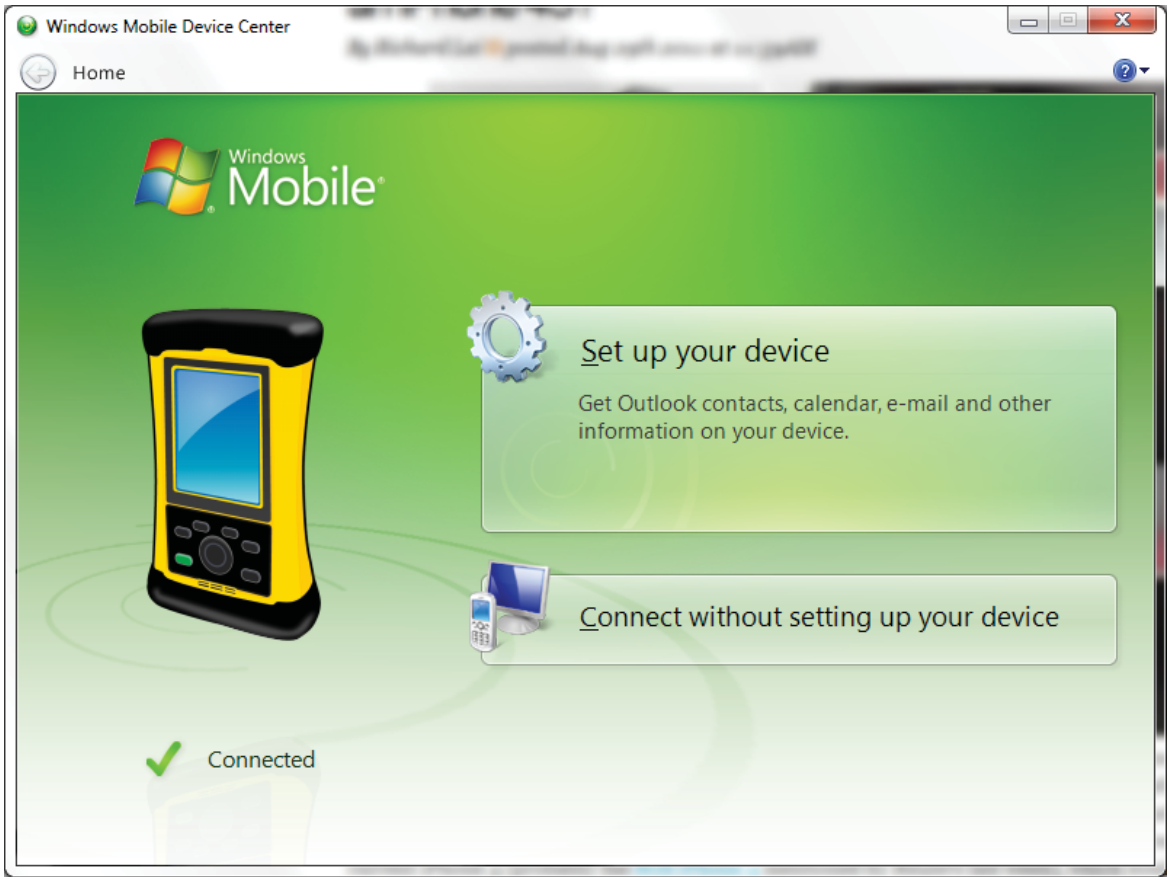
DL4c Software User's Guide

Transferring Joint Reports with Windows Mobile Device Center (Windows 7 and Vista)

1) Remove the pressure sender serial cable from your McElroy DataLogger 4 Trimble Nomad computer. Connect the Nomad to your PC using the mini-USB to PC cable. It may take longer for the PC to recognize and register the Nomad if this is the first connection after installing Mobile Device Center.

2) The first time Mobile Device Center runs on your PC, you need to respond to the product registration form by choosing to "**Register**" the product or "**Don't register**" to skip the registration.

3) Wait for this screen to show "**Connected**" then click on "**Connect without setting up your device**."



PH04632-1-24-12

DL4c Software User's Guide

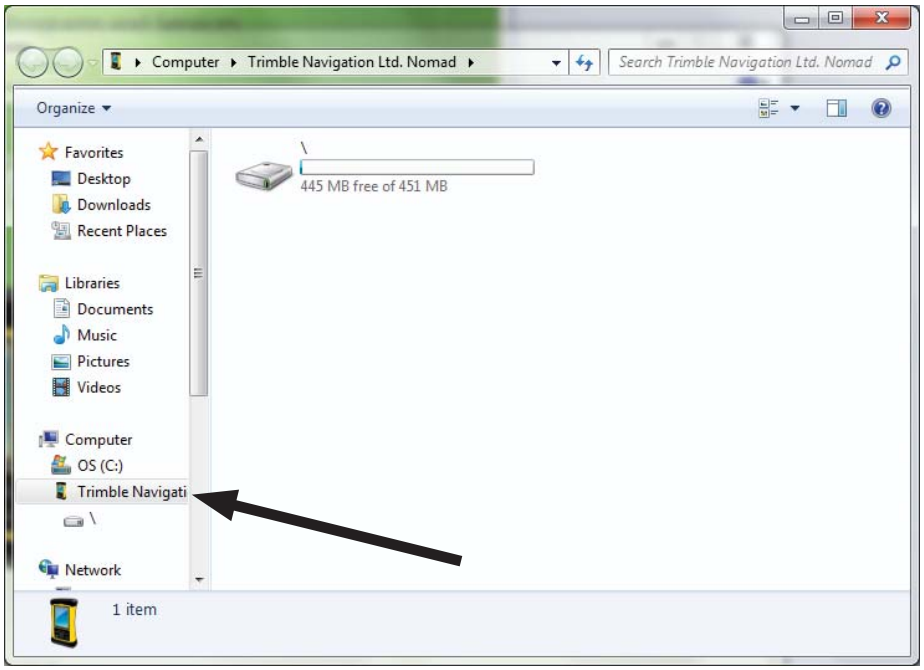
PH04633-1-24-12

Hover over "**File Management**" in the Quick Connect page above to reveal "**Browse the contents of your device**."

PH04634-1-24-12

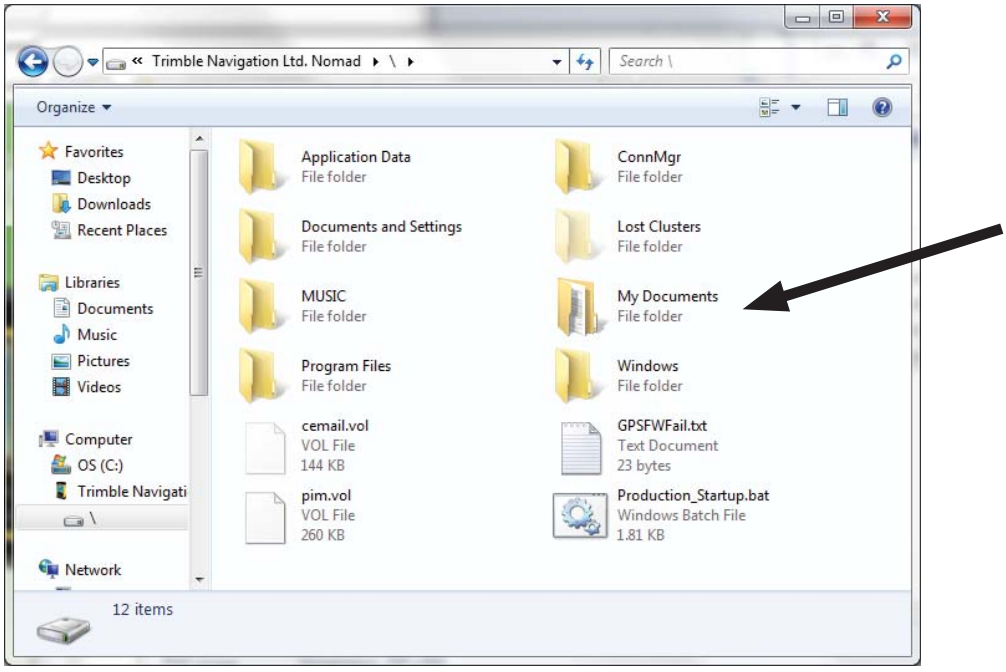
Click "**Browse the contents of your device**."

DL4c Software User's Guide



PH04635-1-24-12

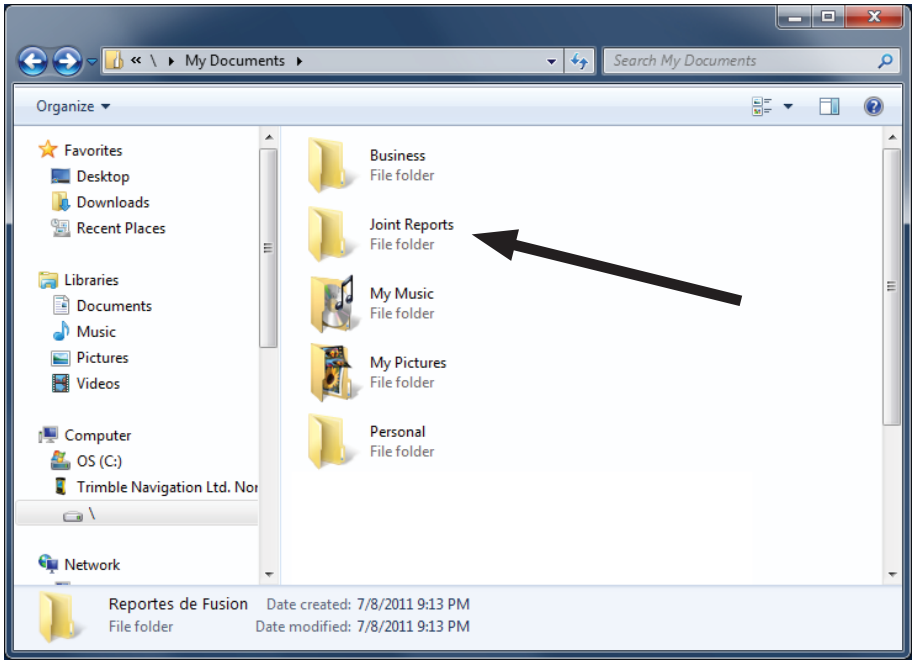
Double click on the device icon in the explorer window under "Computer\Trimble Navigation Ltd. Nomad"



PH04636-1-24-12

Double click on the "My Documents" folder and look for the "Joint Reports" folder

DL4c Software User's Guide



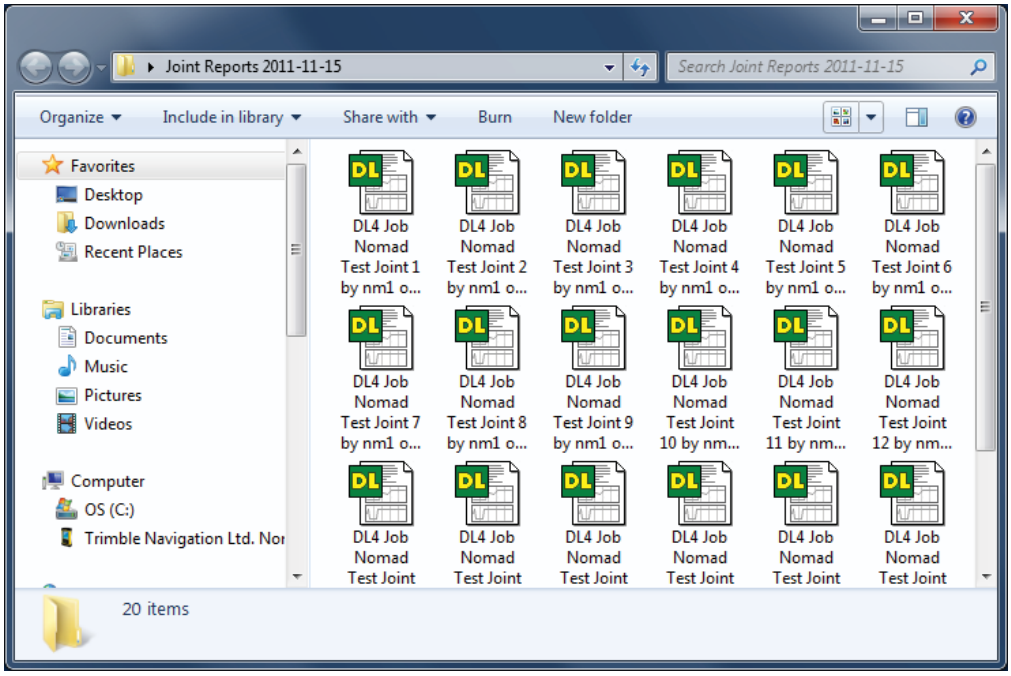
PH04637-1-24-12

Right-click on the "**Joint Reports**" folder and then click "**Copy**".

Find a clean spot on your Computer's desktop, right-click and then paste the entire Joint Reports folder on your desktop.

You may append today's date to the folder name, for instance "Joint Reports 2011-11-15".

Now you have successfully copied the entire Joint Reports folder on to your desktop PC. [**Note:** Once you are sure you have secured the joint reports on your PC and on an optional external or secondary storage, you may delete the folder on the Nomad computer.]



PH04638-1-24-12

Your joint reports folder may look like this with a list of joint reports:

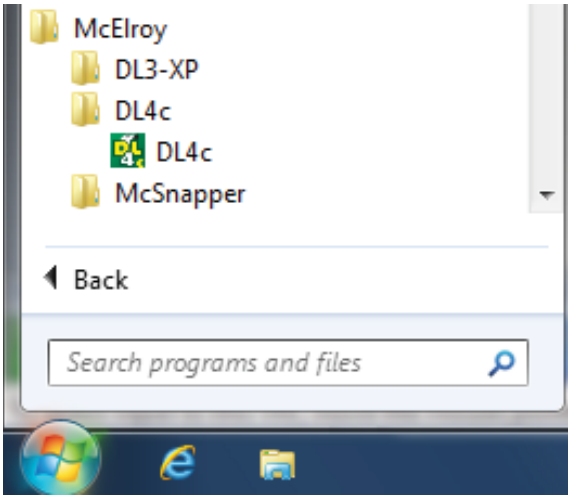
DL4c Software User's Guide

View Joint Reports with the McElroy DL4c

The McElroy DL4c is the desktop companion software that allows viewing, printing and analyzing joint reports on your Microsoft Windows PC.

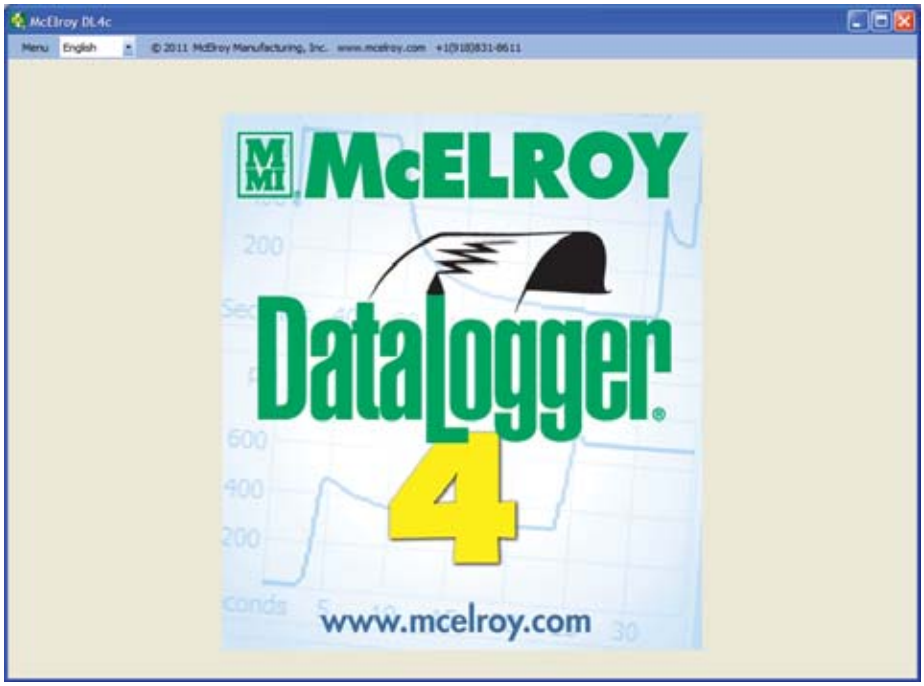
To run DL4c, double click on the desktop icon or find it in the Start Menu.

PH04644-1-24-12



PH04645-1-24-12

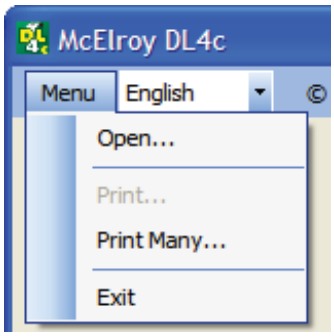
Main Screen:



PH04646-1-24-12

DL4c Software User's Guide

Menu items:



PH04647-1-26-12

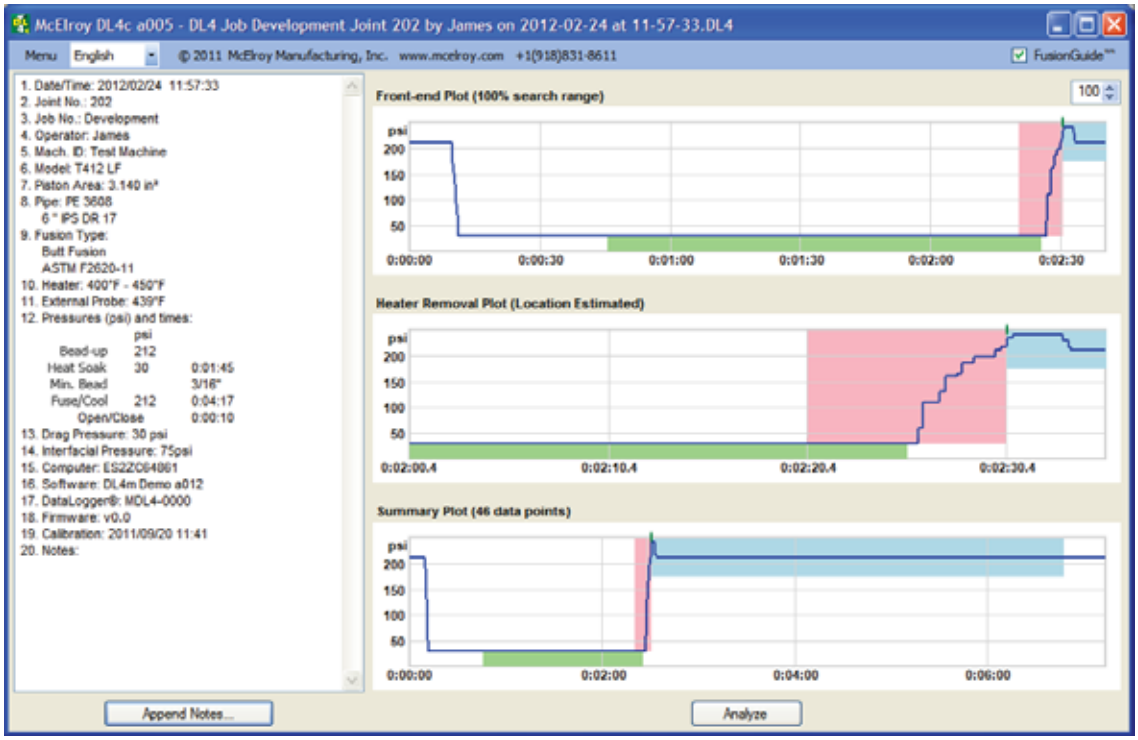
Open...	Open an existing joint report
Print...	Print an opened joint report
Print Many...	Print more than one report at a time. To select a continuous group of files, click the first file then hold down the Shift key to select the last file in the group. To select multiple scattered files, click the first file then hold down the Ctrl key and click each one of the file one at a time.
Exit	Quit DL4c

Display language:

PH04648-1-26-12

Menu items and joint report labels can be displayed in one of the support languages by selecting the desired language from the list.

Joint report sample:

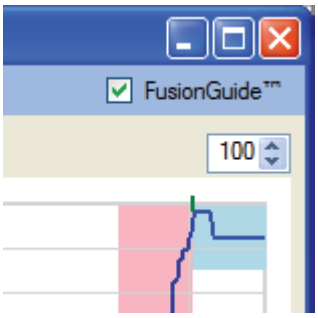


PH04649-1-24-12

TX02815-10-20-08

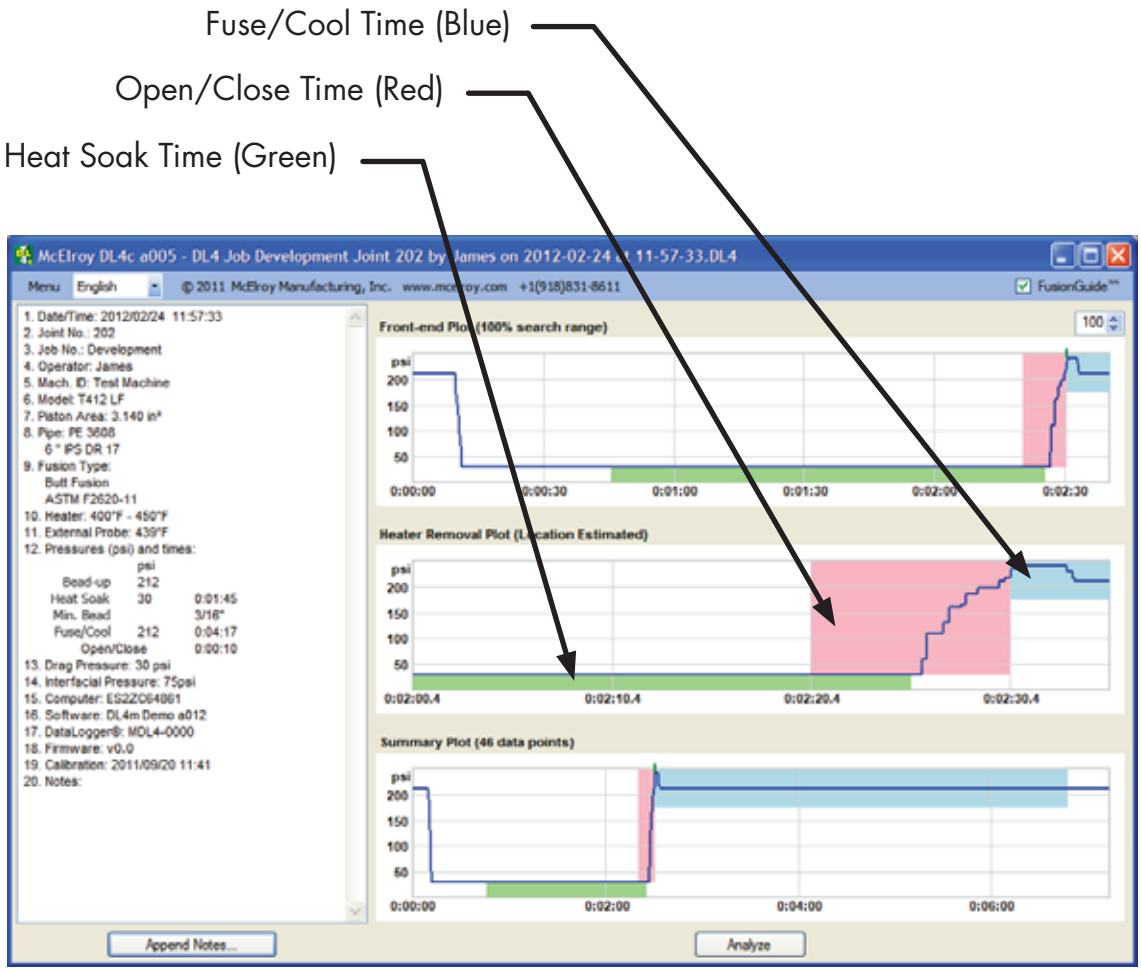
DL4c Software User's Guide

FusionGuide™:



PH04649-2-27-12

The DL4c software includes FusionGuide™ which applies shaded areas to the joint report so the user can visually determine whether the plots of the report are within the selected fusion specification. The plot will lie within the shaded areas when the report is within the selected fusion specification.
There are 3 shaded areas that highlight the heat soak time, open/close time, and the fuse/cool time. An additional shaded area may be present depending on the specification used. The additional area will be colored tan and will represent cooling time.
If a report is not within the shaded areas, ensure that the proper fusion specification or joining standard was followed.
The FusionGuide™ can be enabled and disabled using the check box in the top corner of the window.



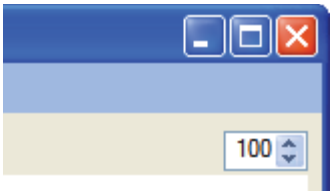
PH04649-1-24-12

DL4c Software User's Guide

Front-end plot search range:

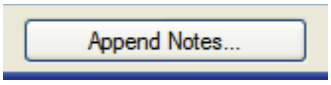
IMPORTANT: The joint report plot may show pressure fluctuation beyond the end of the cool cycle if the fusion was completed and pipe was unclamped from the fusion machine while logging is on. This prevents DL4c from accurately estimating the heater removal point.

PH04650-1-26-12



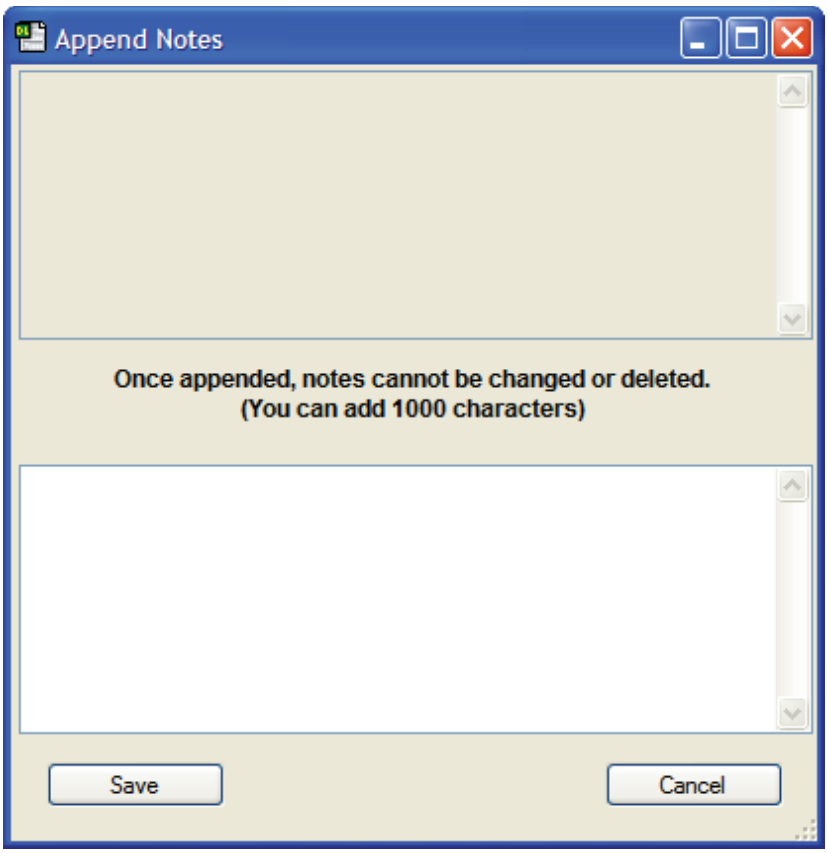
Reduce the frontend search range from the default 100% until a reasonable estimation of front-end plot is displayed.

Append Notes:



More notes can be appended to an existing joint report. Once appended, notes cannot be deleted or edited. Click on the "**Append Notes...**" button to open the Append Notes dialog box:

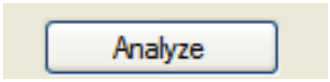
PH04651-1-26-12



PH04652-1-26-12

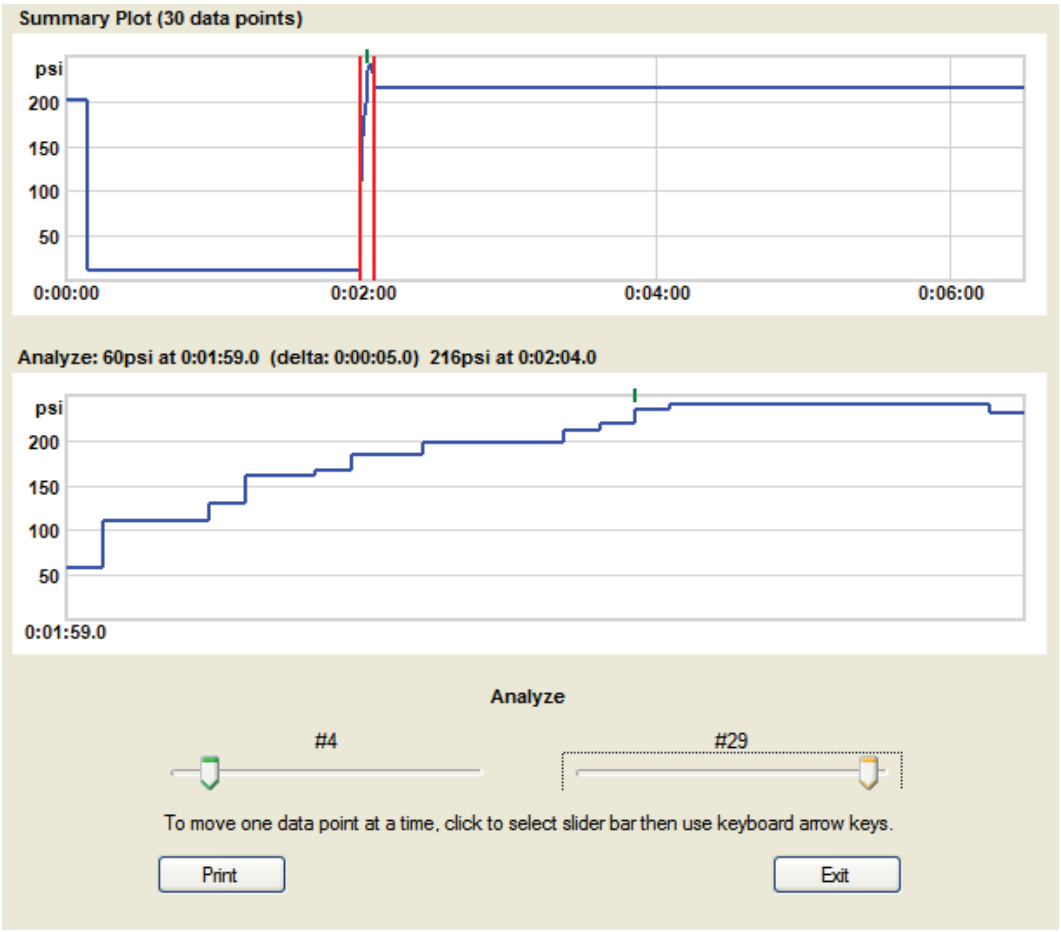
DL4c Software User's Guide

Analyzer:



Click the Analyze button to gain a detailed view of each collected data point, and print out a magnified view of a specified range of data points.

PH04653-1-26-12



PH04654-1-26-12

Use the left and right slider bars to select a range of data points for closer examination. The Summary plot shows two red vertical lines encompassing the data points under examination relative to the entire graph. The Analyze view shows the points under examination.

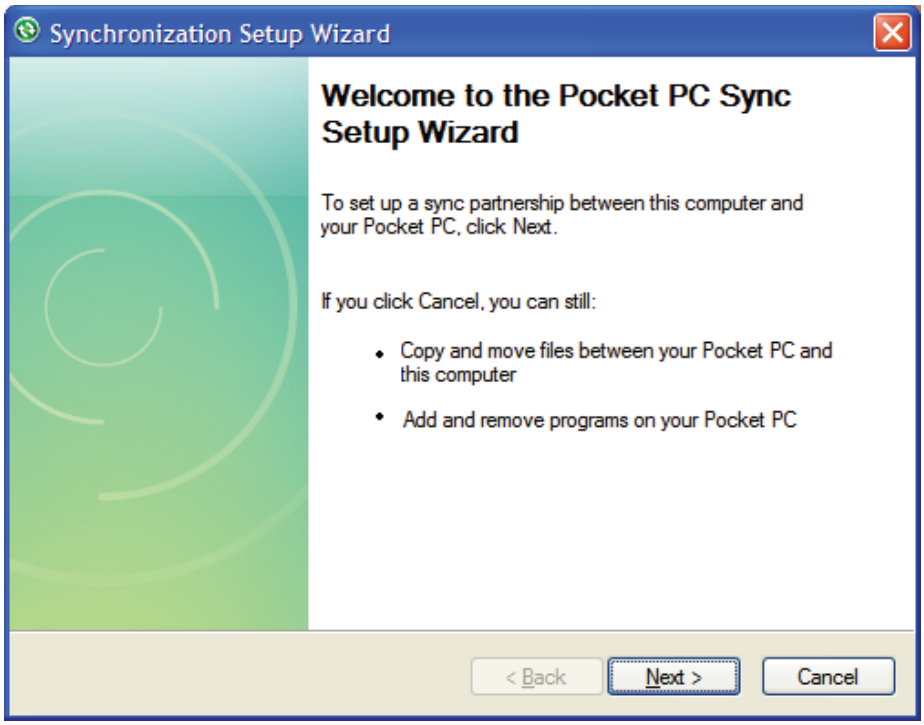
The title of the Analyze plot shows the pressure and time of the first and last data points in view, along with the time difference (delta) between these two data points. In the above example, the title shows 60 psi at 1 minute 59 seconds into the fusion cycle, and 216 psi at 2 minutes and 4 seconds, giving a difference in time of 5 seconds.

TX04396-2-29-12

Transferring Joint Reports with Microsoft ActiveSync for Windows XP

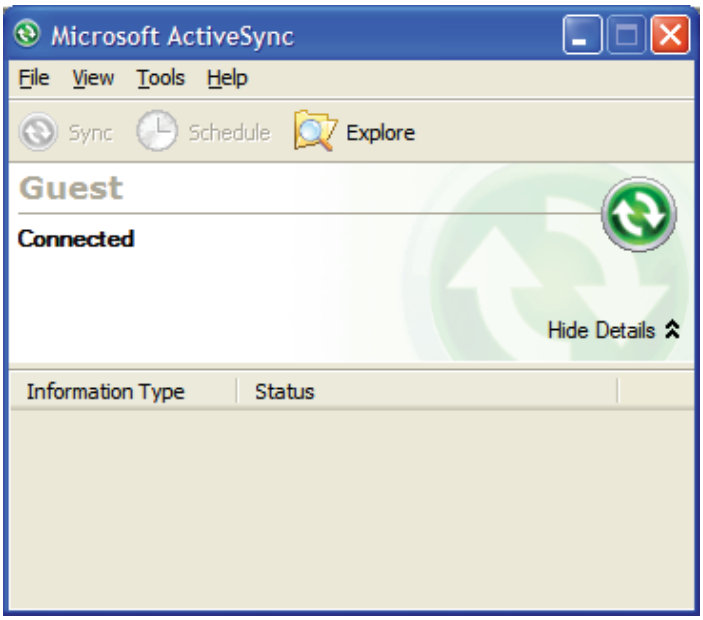
1) Remove the pressure sender serial cable from your McElroy DataLogger 4 Trimble Nomad computer. Connect the Nomad to your PC using the mini-USB to PC cable. It may take longer for the PC to recognize and register the Nomad if this is the first connection after installing Microsoft ActiveSync.

2) Wait for this screen to show and then click **Cancel**



PH04655-1-24-12

3) Click the **Explore** button below when ActiveSync shows "**Connected**"



PH04656-1-24-12

Transferring Joint Reports with Microsoft ActiveSync for Windows XP

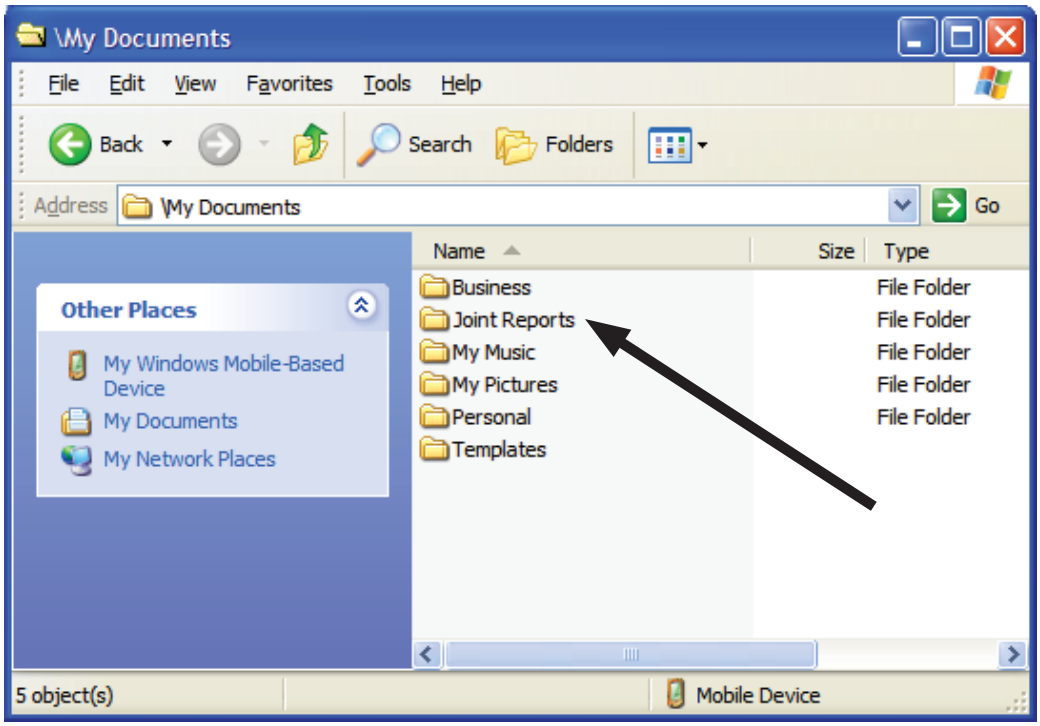
4) Right click on the "Joint Reports" folder and then click "Copy".

Find a clean spot on your computer's desktop, right click and then paste the entire Joint Reports folder on your desktop.

You may append today's date to the folder name, for instance "Joint Reports 2011-11-15".

Now you have successfully copied the entire Joint Reports folder on to your desktop PC.

Note: Once you are sure you have secured the joint reports on your PC and on an optional external or secondary storage, you may delete the folder on the Nomad computer.



PH04657-1-24-12

TX04397-2-29-12

Usage and Care

Pressure Sender cord
The coiled cord, which connects the pressure sender to the Nomad, has screw connectors on both ends. If the cord is damaged it is easily replaced by unscrewing both ends and installing a new cord.

Quick Disconnect
This DataLogger® uses an improved quick disconnect on the pressure sender. It is designed to seal reliably but not trap pressure in the line. It can be connected under pressure if necessary. To use this unit on older fusion machines you will need Fusion Machine Adapter Kit ADL6001. Remove the QD and fittings on the carriage manifold TXA port and replace them with the elbow and QD in the kit.

Pressure Sender
The pressure sender is calibrated at McElroy Manufacturing, Inc. Its calibration should be checked annually to maintain factory quality.

TX04398-2-29-12

No User Serviceable Parts

NOTICE: There are no parts of the DataLogger® that can be repaired by the user. Do not try to open the unit. Any attempt to open the unit can affect the weatherproofing and can damage the unit.

TX04399-2-29-12

Calibration

Pressure sender must be sent to McElroy or Authorized Service Center every year for calibration to ensure accuracy.

A backup pressure sender may be kept on hand to minimize down time.

TX04400-2-29-12

Specifications

McElroy DataLogger® 4

Batteries:	Built-in Battery (Nomad)
Battery Life:	16 hours at default settings
Operating Temp:	-4 to 140 degrees Fahrenheit (-20 to 60 degrees Celsius)
Wired Link:	RS - 232 Compatible
Pressure Probe:	Range: 0 - 3000PSI Accuracy: 1% FSO
Data Sampling Rate:	5 samples per second
Nomad Specifications:	Refer to manufacturer's manual.
Software Updates:	Available online at http://www.mcelroy.com/fusion/support/downloads.htm

TX04401-2-29-12

About this manual . . .

McElroy Manufacturing continually strives to give customers the best quality products available. This manual is printed with materials made for durable applications and harsh environments.

This manual is waterproof, tear resistant, grease resistant, abrasion resistant and the bonding quality of the printing ensures a readable, durable product.

The material does not contain any cellulose based materials and does not contribute to the harvesting of our forests, or ozone-depleting constituents. This manual can be safely disposed of in a landfill and will not leach into ground water.

TX001660-8-19-99

The leader by design.

P.O. Box 580550 Tulsa, Oklahoma 74158-0550, USA

www.mcelroy.com