PROHEAT®

M-Series Data Link Kit

Data Link Kit Part# PK0056
Windows 2000, XP, Vista, 7
G-I Proheat Control Module (PCM) ONLY

NOTICE

Check www.proheat.com for the latest PK0056 software.

The M-Series Data Link software allows technicians to download the M-Series operation history from the Proheat Control Module (PCM). It records operational events and diagnostics in sequence allowing technicians to assist with product troubleshooting.

Option 1

Computer has a Serial (RS232) port. Install software as per ***Software Installation*** and then go to ***How to Run the Program***.

Option 2

Computer does not have a Serial (RS232) port. Go to ***USB-Serial Adaptor Set-up*** on page 5 first. A USB-Serial adaptor is required which is included in the PK0056 Data Link Kit or may be purchased from an electronics store.

Software Installation

NOTICE

Earlier versions of M-Series Data Link X.0 will not be un-installed from your computer. Uninstall earlier 2.0 and 1.0 versions if required.

If software is downloaded from www.proheat.com, proceed to Step 3.

1. Insert the M-Series Data Link CDROM into your CD drive
2. The M-Series Data Link installer should auto-start. If not, open ***Windows Explorer***. In the folders pane under ***My Computer***, **double-click** on the ***d: drive*** icon (or the drive letter for your CD drive).
3. **Double-click *setup.exe*** file from the folder.
4. The installer will launch. When the screen shown in Figure A is displayed, follow the on-screen instructions to complete installation. Restart your computer when complete.

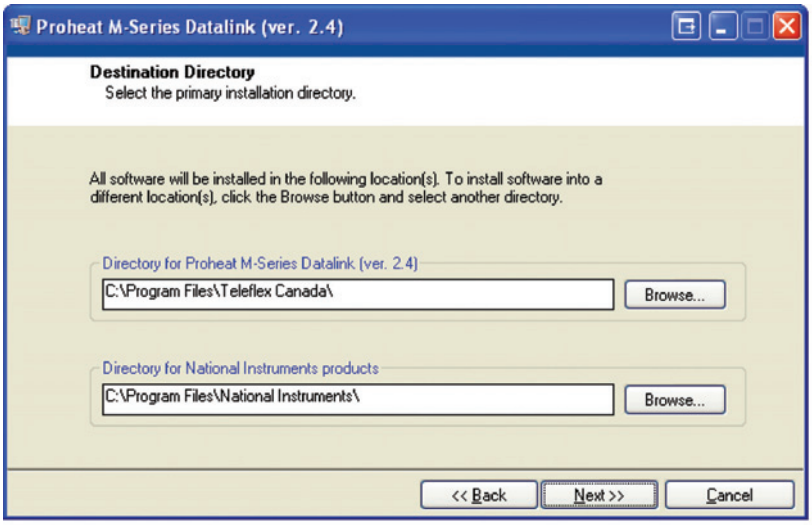
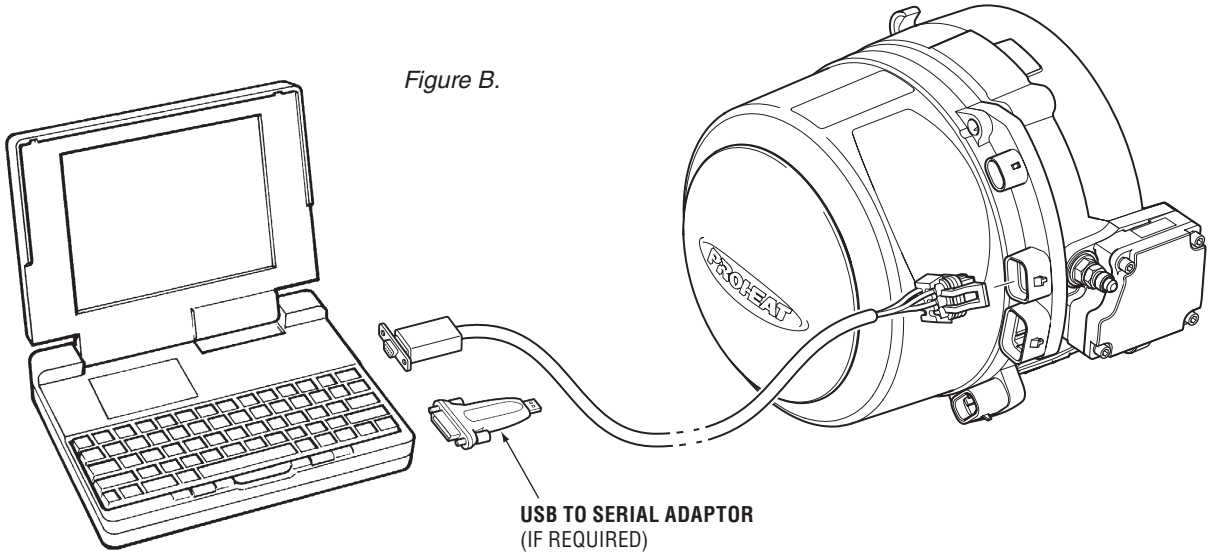


Figure A.

How to Run the Program

1 Connect the power cable and Data Link cable to the PCM Data Link port as shown in Figure B. If required, connect the USB-Serial adaptor.

Figure B.



2 **Click** on the ***Start*** menu, ***All Programs*** and then to ***Proheat M-Series Data Link (ver. 2.4)*** to launch the program. Figure C should be displayed.

3 Ensure that green background ***Proheat Connected*** is displayed in the upper right corner of the screen as shown in Figure C.

NOTICE

*If the yellow background **Proheat Not Connected** is displayed, the software is not connecting to the PCM. Troubleshoot to ensure that the PCM has power and is properly connected to the computer.*

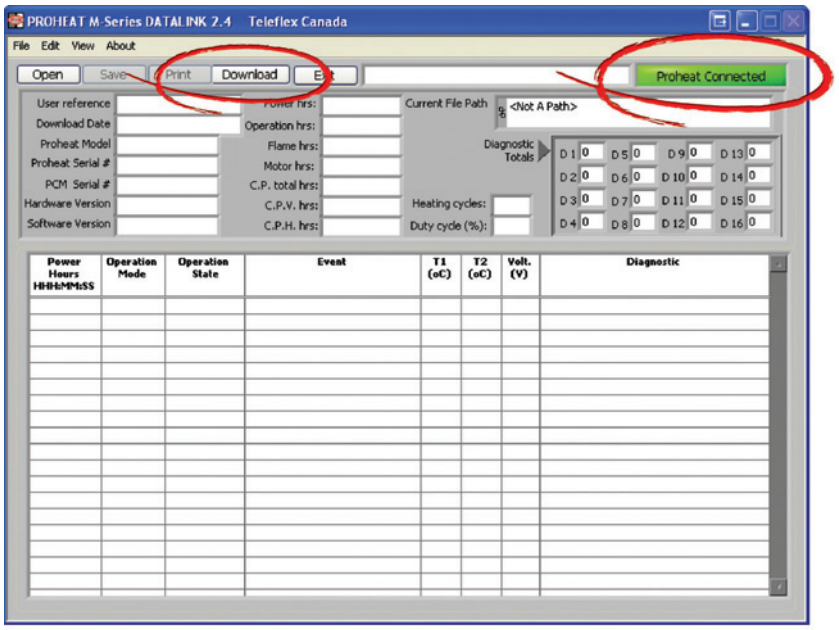


Figure C.

4 To download, click the ***Download*** button. Follow the on-screen instructions to enter the reference user data as required. Figure D is an example of the data displayed.

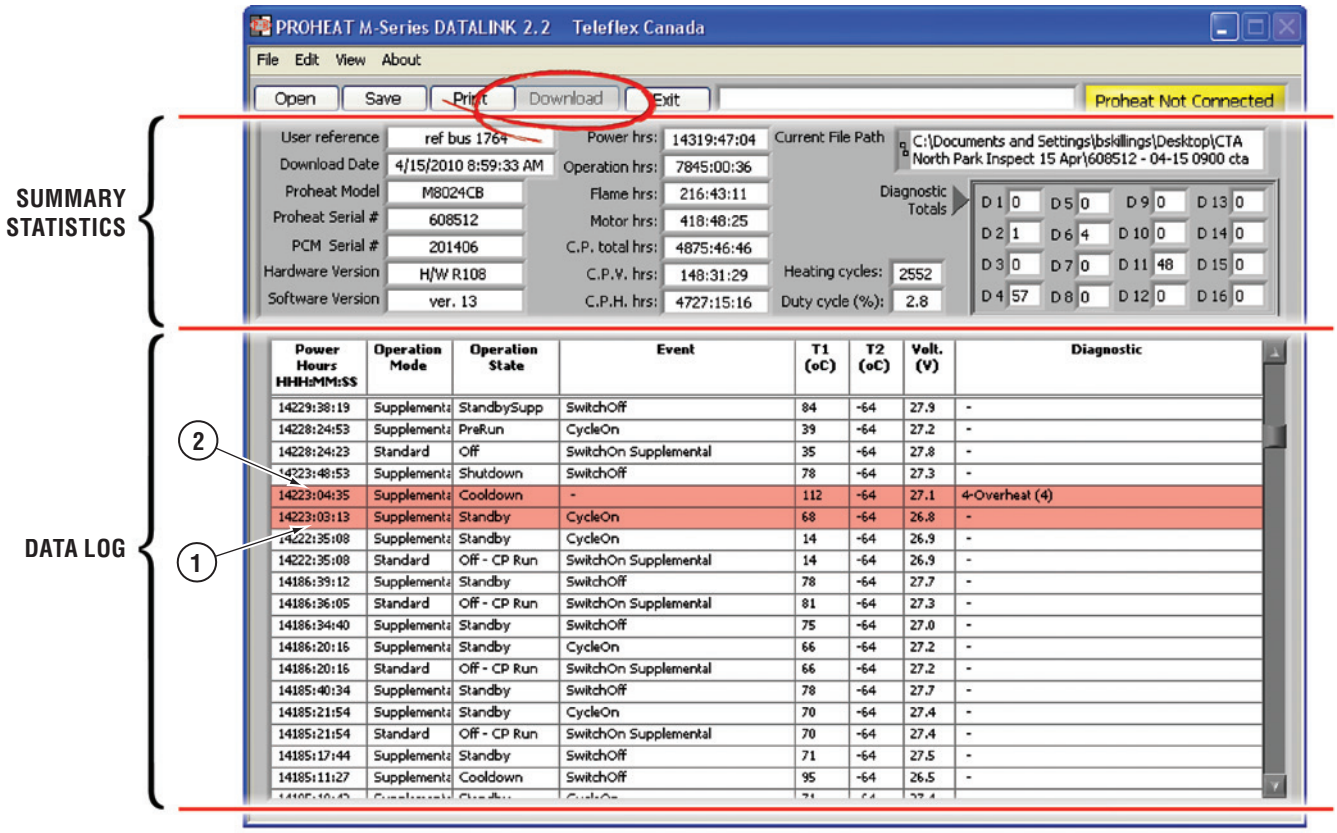


Figure D. *1 – Example 1, See page 5.*
2 – Example 2, See page 5.

Data Interpretation

NOTICE

The PCM data cannot be erased or reset. The data in permanently recorded in the PCM.

The software displays information in Summary Statistics and Data Log form (see figure D). The following definitions provide guidance on the data displayed. For more information about the data displayed, refer to the M-Series manual on www.proheat.com or contact Product Support at www.proheat.com

Summary Statistics Definitions

User Reference User Reference data input.

Download Date Date stamp provided by computer at download time.

Proheat Model Proheat controller model.
For example, M8024CB is an M80 24 V CANbus model.

Proheat Serial # User input of heater serial number.

PCM Serial # User input or automatic input of PCM serial number (depends on software version).

Hardware Version Automatic data input from PCM displaying the Hardware Version.

Software Version Automatic data input from PCM displaying the Software Version.

Power hrs: Power clock in the PCM. When power is applied, clock advances. When power removed, clock stops.

Operation hrs: Number of hours the heater is operationally ON in any of the Standard, Preheat or Supplemental modes.

Flame hrs: Number of hours that the heater is burning fuel.

Motor hrs: Number of hours that the motor has run.

C.P total hrs: Coolant Pump total operation hours. Sum of the Coolant Pump Vehicle hours and the Coolant Pump Heater hours.

C.P.V. hrs: Coolant Pump Vehicle hours. Number of hours that the heater has received a signal from the vehicle to turn the pump on (Pin G of the control connector. See M-Series manual Electrical Schematic at www.proheat.com).

C.P.H hrs: Coolant Pump Heater hours. Number of hours that the heater has sent out a signal to turn on the pump.

Heating Cycle Sequence of automatic operations by the PCM beginning with detecting temperature below the cycle on threshold and starting combustion, and ending with detecting temperature above the cycle off threshold and extinguishing combustion.

Duty Cycle Flame Hours/Operation Hours. Percentage of time that the heater is burning fuel when it is operationally ON.

Diagnostic Totals Summary statistics of the Codes that have occurred (D1, D2, … D15, D16). This data is a cumulative total of events since the zero Power Hour.

Data Log

NOTICE

A reading of -64°C [-83°F] indicates that no temperature sensor was connected.

The Data Log displays the last 300-500 events recorded by the PCM (maximum number of entries depends on the data content). Once the PCM memory is full, the oldest event is erased and the new event is recorded (first in, first out or FIFO data structure). The following defines the columns:

Power Hours HHH:MM:SS Power Hour time stamp for the event.

Operation Mode Software Operation Mode: Standard, Preheat or Supplemental. See the manual at www.proheat.com for more information on the Standard, Preheat and Supplemental Operation Modes.

Operation State Software Operation State in which the Event occurs.

Event Name of the software Event that occurs in the Operation State.

T1 Coolant temperature sensor measurement at the T1 connector.

T2 Coolant temperature sensor measurement at the T2 connector.

Volt Input voltage recording.

Diagnostic Diagnostic code number and description.

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Examples:

Refer to Figure D, page 3 for the row that is interpreted in the following examples.

1 **Power Hour 14223:03:13** – At this Power Hour in the **Supplemental** Operation Mode **Standby** Operation State, the PCM recorded a **CycleOn** Event. At that Power Hour, the Coolant Temperature was **68°**C and the input voltage was **26.8°**V. No temperature sensor was connected to T2 as the T2 sensor measured **-64°**C.

2 **Power Hour 14223:04:35** – At this Power Hour in the **Supplemental** Operation Mode **Cooldown** Operation State, the PCM recorded an **4-Overheat (4)** Diagnostic. At that Power Hour, the Coolant Temperature was **112°**C and the input voltage was **27.1** V. No temperature sensor was connected to T2 as the T2 sensor measured **-64°**C.

USB-Serial Adaptor Set-Up

1 The USB-Serial (RS232) adaptor must be configured to communicate through COM1, COM2 or COM3. The following instructions are for the Windows XP operating system. The instructions are similar for other Windows operating systems. If you need further assistance, please contact Product Support at www.proheat.com

2 Install the USB-Serial adaptor as per the manufacturer's instructions. The USB-Serial adaptor driver must be installed from the CD or the manufacturer's website.

3 Insert the USB-Serial adaptor into a USB port on the computer.

4 **Right-Click** on ***My Computer*** icon on the Desktop. Click on the ***Hardware*** tab and then the ***Device Manager*** button as shown in Figure E.

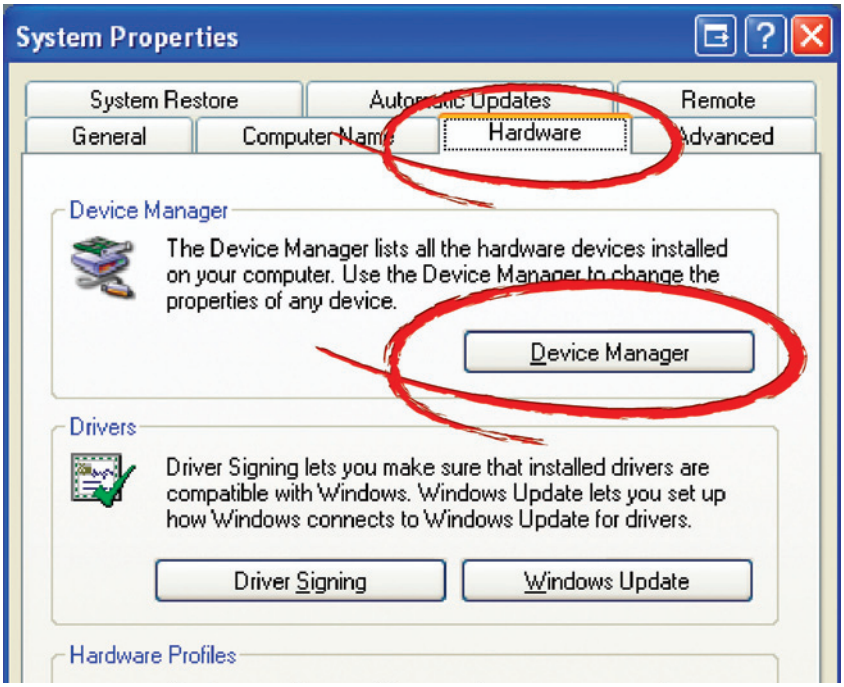

Figure E.

NOTICE

The USB-Serial adaptor may not be defaulted to COM4. This is for example only.

5 Expand the Device Manager window to see the ***Ports (COM & LPT)*** as shown in Figure F. Locate the USB-Serial Comm Port. In this example, it is defaulted to COM4.

6 **Right-click** on the adaptor and left-click on ***Properties***.

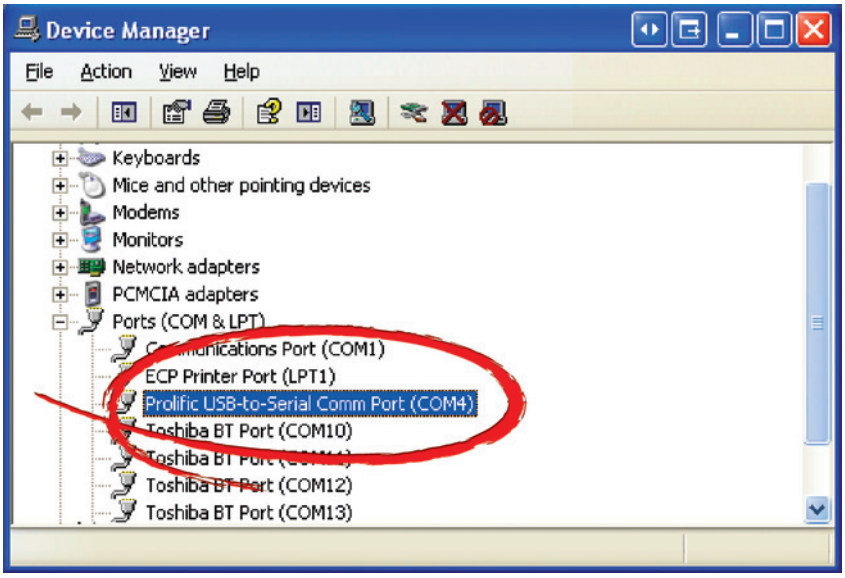

Figure F.

7 Click on ***Port Settings*** and then the ***Advanced*** button as shown in Figure G.

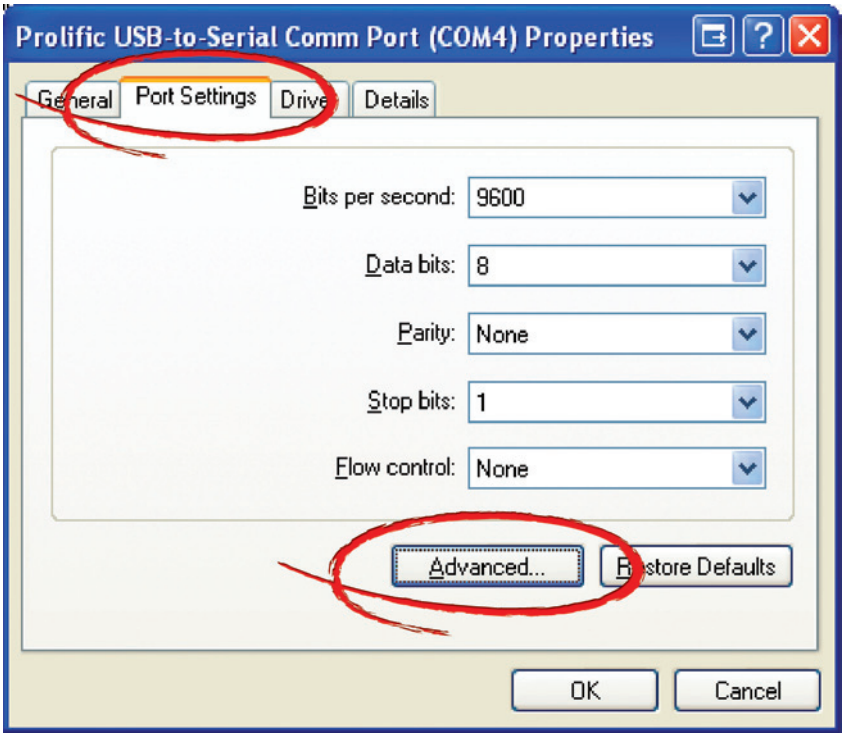

Figure G.

NOTICE

The USB-Serial adaptor may not be defaulted to COM4. This is for example only.

8 Change the USB-Serial ***COM Port Number*** from the default to COM1, COM2 or COM3 as shown in Figure H. Click 'OK' to close the Advanced Settings for COM window followed by 'OK' to close the Communications Port Properties windows.

If COM1, COM2 or COM3 are all in use, repeat Steps 6–8 to reassign one of the ports to free up COM1, COM2 or COM3 and then repeat Steps 6–8 to assign the USB-Serial to COM1, COM2 or COM3. For example, reassign COM1 to COM30 and then assign the USB-Serial to COM1.

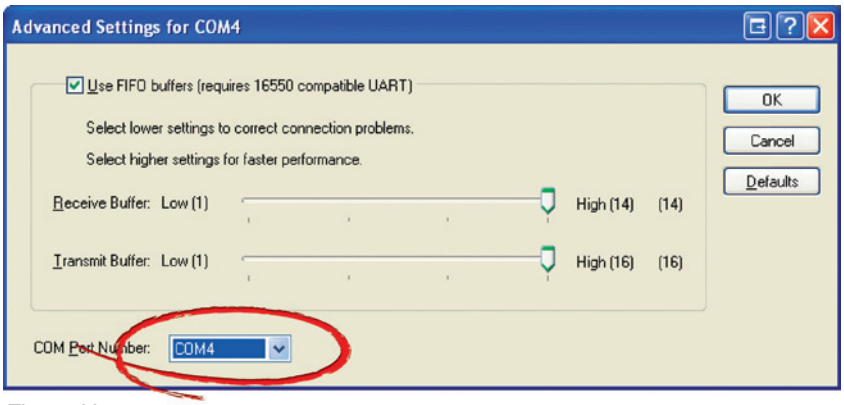

Figure H.

9 The USB-Serial adaptor is now set-up to communicate with the software. Go to ***Software Installation*** on page 1.