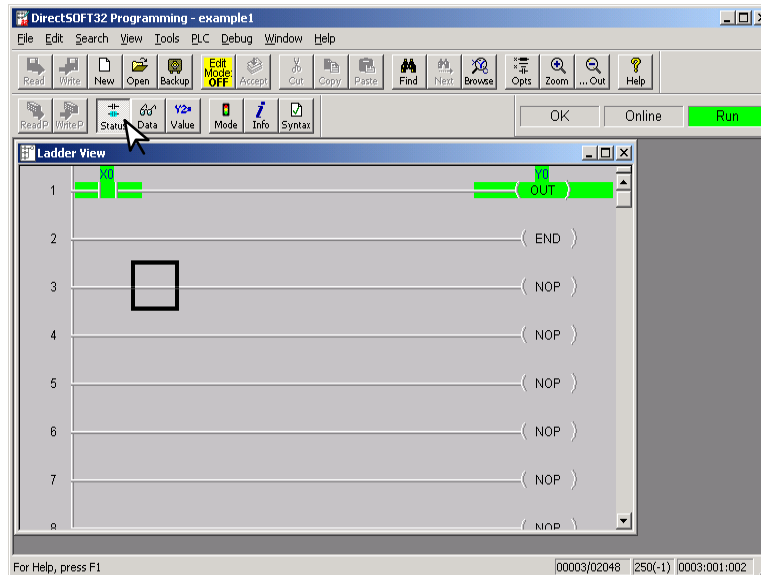# Monitoring the Program

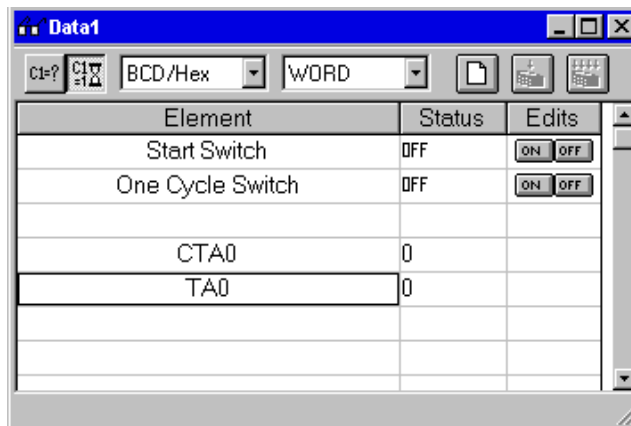**Monitor the Ladder View**

There are many things that can be monitored in the relay ladder program by simply clicking the **Status** button on the online toolbar. Clicking on the Status button will either turn ON the monitor mode of the relay ladder view or turn it OFF. You can watch inputs and outputs turn ON/OFF, monitor counters and timers and the status of compare contacts. Notice that each element in the example below is backlit. The backlighted element means that the input or output is ON.
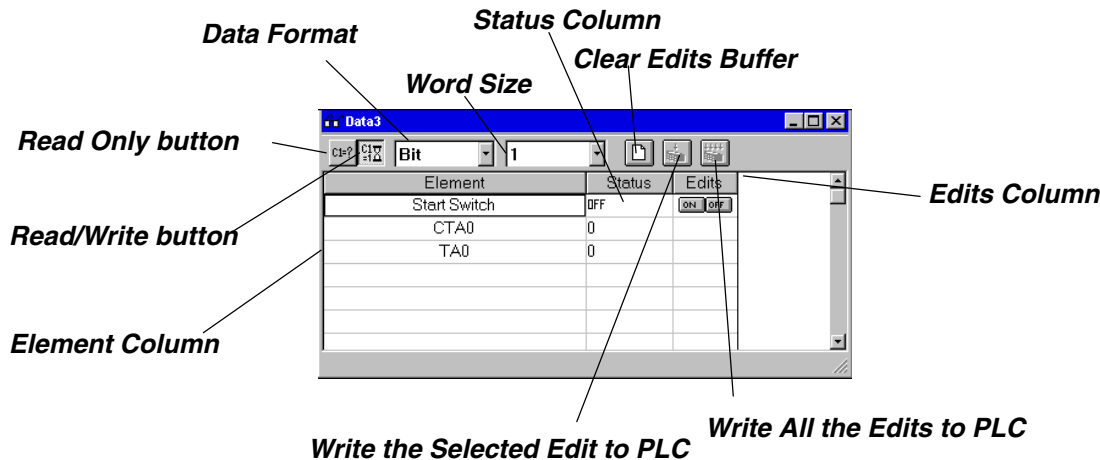

Monitor Using Data View

A good tool for monitoring the program is a **Data View** window. Data View will allow you to monitor and manipulate the status and data for the various elements and memory locations used in the program. If you have programmed in other languages before, you may know this type of window as a Watch Window. You can access this window by clicking on **Debug > Data View**, and **New**. The following is an example of a Data View window for a typical program.

When you open a new Data View, *Direct*SOFT32 automatically provides a title for the window. These Data View windows are by default assigned the names **Data1**, **Data2**, etc. in order. You can change these names in the **Options** dialog of <u>View</u> from the main menu bar.

**Details of the
Data View Window**
The example shown below illustrates the basic components of the Data View window.
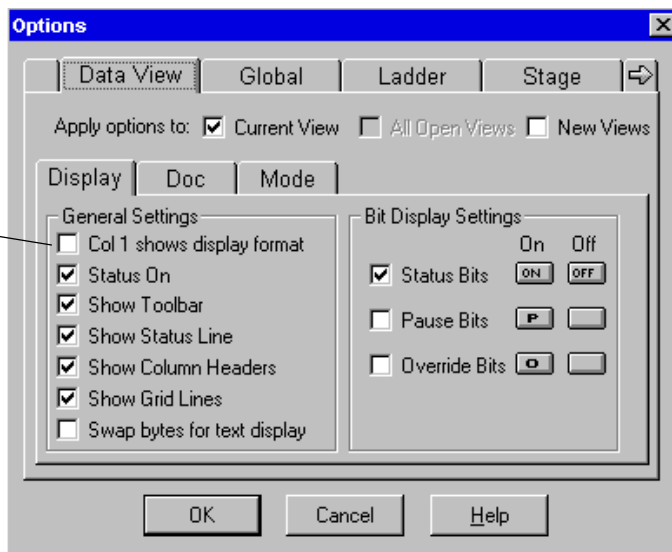

To make the Data View window active, click on **Debug** on the main menu toolbar, then **All Status On**.

**Data View Options
Window**
The Data View window can be tailored to your liking. Select **View** on the main menu toolbar, then **Options**. When the Options Dialog appears, click on the **Data View** tab to see the following view.

Enable this if you want to show the data format in the first column beside the Element. This will only be visible when the status is turned OFF.

The default **General Settings** (left hand side of the window) are typically left as shown. Occasionally, you may want to enable the top setting, **Col 1 shows display format** (binary, hex/decimal, etc.). This feature will only show the display format in the first column when working offline or with the Status OFF. However, not all requirements are the same. You can experiment with these general settings to see which ones you need. More details of the Data View window can be found in chapter 10 of the *Direct*SOFT32 Programming Software Users Manual.
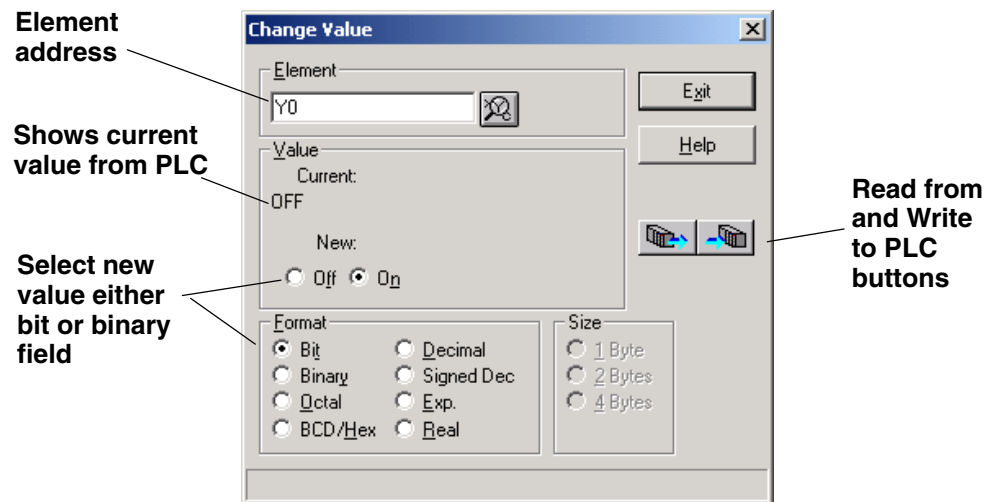
The Change Value Window

I/O points can be turned ON/OFF and data values can be written to memory locations by using the **Change Value** window. It is not necessary to enable Status to change a value, but it is highly recommended to see visible results.

There are several ways to access the Change Value window.

- Click on the element you want to change (in any window) and then use the **Debug > Change Value** menu option, or use the Hot Key **CTRL** + **SHIFT** + **F2**.

- Click on the element you want to change and then use the Change Value button.

- If status is on and you are not using the Edit Mode, double click on the element to display the Change Value window.

There are two command buttons located on the right side of the window, **Read from PLC** and **Write to PLC**. *Direct*SOFT32 automatically reads the value from the PLC when the window appears. If you want to read the data again, click on the **Read from PLC** button. After you have entered a new value (OFF, ON, or data) click on the **Write to PLC** button to write the change to the PLC.

Element address

Shows current value from PLC

Select new value either bit or binary field

Change Value	
Element: Y0	Exit
	Help
Value	
Current: OFF	Read from and Write to PLC buttons
New: ○ Off ● On	
Format: ● Bit ○ Decimal ○ Binary ○ Signed Dec ○ Octal ○ Exp. ○ BCD/Hex ○ Real	Size: ○ 1 Byte ○ 2 Bytes ○ 4 Bytes

Enter the New Value

The **Change Value** window shows the current value stored in the PLC and allows the entry of a new value. There are several data formats, therefore the value which is entered depends on the format selected. For example, if viewing the I/O point as a bit, **On** or **Off** is selected. If the I/O point being viewed is binary, a binary bit pattern is entered. Enter a new, then click on the **Write to PLC** button to change in the PLC.