Status Display Mode

In This Chapter. . . .

- Overview
- Selecting the Address
- Selecting the Data Type
- Using the Bookmark
- Chapter Summary

Overview

Status Display Mode allows you to view V-memory data in the CPU. *It requires no setup parameters or supporting ladder logic!* Therefore, you can walk up to any DL105, DL205, DL405 PLC or DL305 with a DL350 CPU, and connect a DV-1000 to view various CPU data types. This makes the DV-1000 a great debugging tool for machine startups or for troubleshooting in the field.



Status Display Format

Status Display Mode is accessible at any time by pressing the **Status** Key (unless the keypad is in Bit Control Mode). It *does not* require setup parameters, but you may select it as the default mode at powerup (see Chapter 3). The default display upon Status Display Mode entry is shown below.



The left column lists the data type (X in the example). The next column lists the octal address, and the data bits are on the right. So the top row shows the status of the eight discrete inputs X00 through X07 in real time. **Recall that there are 8 bits in a byte, and two bytes (16 bits) in a data word!**

If you can switch the input at X0 on and off, do so and watch the display response. Across the bottom of the screen faceplate is the bit numbering, from LSB to MSB.

NOTE: The binary bit patterns or 4-digit word values in these displays are arbitrary examples. The bit patterns or values on your DV-1000 depends on the state of your CPU program and process.

Data types such as P or V are displayed as 4-digit BCD or hexadecimal numbers. Step to the V data type by pressing the **Minus (–)** Key twice.



Now return to the X data type by pressing the Plus (+) key twice.



Selecting Byte or Word Displays The default display above shows four bytes, or 32 bits of data. You can view eight bytes, or 64 bits by pressing the **Enter** Key. In the example display below, the top line shows X00 through X07, and X10 through X17 directly below. To return to 32-bit display format, just press the **Enter** Key again.



Selecting the Address

The default address of the top line status is "00" The DV-1000 automatically displays consecutive addresses on the remaining three lines. Addresses for the entire display is selected from the top line only. Therefore, the cursor remains on the top line. To change the address, move the cursor to the right by pressing the **Cursor Right** key once. The cursor moves to the 10's place.



With the cursor over the 10's place, press the **Plus (+)** Key four times. Each time the address increments by 10 (octal), until the display shows the status for X40 through X77.



To increment the 100's place, press the **Cursor Left** key, and then the **Plus (+)** Key. Now the top line address changes from 40 to 140, and consecutive addresses follow. Using this technique, you can select high numbered addresses quickly.



NOTE: Since the bit patterns display at least 8 bits on each row, the units digit of the address is always "0". Therefore, the cursor cannot be moved to the units position in the address for editing.

Selecting the Data Type

You can view various V-memory data types by using the **Plus (+)** and **Minus (–)** Keys on the keypad. Beginning from the default display, verify that the cursor is over the "X". Then press the **Plus (+)** Key to view the status of Y output bits as shown below.



6 5 4 3

7

2

1

0 7 6 5 4 3 2 1 0

Data types X, Y, GX, C, SP, T, CT, S, V, and P are accessible in a circular list, as shown to the right. However, you may see one or two fewer data types, based on your PLC type. Pressing the **Plus (+)** Key displays the next data type in the *clockwise* direction. Pressing the **Minus (-)** Key displays the next data type in the *counter-clockwise* direction.

Data types V and P are displayed in hexadecimal format rather than as discrete bits. As an example, let's view V type data now. Increment the display from Y type to V type by pressing the **Minus** (-) Key three times.





By default the display begins with V0 through V3. Now we can change the address to the location of data we wish to view. The example selects the data at V2100.



Using the Bookmark

As a convenience the Status Display Mode features a "bookmark", or a memory of the data type and address last selected in Status Mode. This permits you to later return to Status Display Mode, and use the bookmark to easily recall the last data type and address location you were viewing.

To demonstrate how this works, suppose you are viewing the memory contents at V2100, as you were at the end of the previous section (select V2100 at this time if you have not already done so). Now, suppose you need to check for messages using Message Mode (Press the Message Key). After viewing any message, we want to return to Status Mode, displaying V2100 contents. To do this, press STAT once to view the default X00 data. Then press STAT a second time to return to the bookmark, and the data at V2100 immediately appears on the display!

PRFSS

MSG

Original Status Mode Display

| V | 2 | 1 | 0 | 0 | | 4 | D | 4 | 1 | |
|------|---|---|---|---|---|---|---|---|---|--|
| V | 2 | 1 | 0 | 1 | | 4 | 3 | 4 | 8 | |
| V | 2 | 1 | 0 | 2 | | 4 | 9 | 4 | Ε | |
| V | 2 | 1 | 0 | 3 | | 4 | 5 | 2 | 0 | |
| | | | | | - | - | | ~ | | |

Enter Status Mode Again

Х 0 0 Χ 10 Χ 20 Х 30 7 6 5 4 3 2 1 0 7 6 5 4 3 2 1 0 Exit to Message Mode







| | STAT | |
|---|------|---|
| (| 5 | • |



The bookmark serves as a pointer to the previously viewed data type and address in Status Mode, as depicted below. The bookmark is set when you exit Status Display Mode, and it can reference any of the data types along with valid addresses.



Chapter Summary

Summary of Key Points

Now we have covered how to use Status Display Mode to view V-memory contents. We may summarize some of the key points we have learned about setup parameters in this chapter:

- Status Mode requires no setup parameters.
- For discrete bit displays, you can select byte or word format by toggling the **Enter** Key.
- The cursor remains on the top line at all times. The addresses of the three rows below the top line are consecutive to the top line address.
- Data types are selected from a circular list using the Plus (+) and Minus (-) Keys.
- After powerup, the DV-1000 records the variable type and address you were viewing an time you exit Status Display Mode, saving it as a bookmark. After using other modes and returning to Status Display Mode, you can press the **Enter** Key twice to return to the variable type and address previously viewed.
- The bookmark is always reset at each powerup.