Product Group: SG2 Programmable Relay
Number: AN-SG2-024

Date Issued: 11/1/2017
Revision: Original

Title: SG2 PLR Program and ***i***View HMI Program for RS232 Communication

Summary: This application note will show how to set the programming for the operation of the SG2 PLR and ***i***View HMI once they are connected using the RS232 communication port. For this application note, we will be using the SG2-10HR-A, the ***i***View IV07M-SEAP, the SG2-PL01 cable and the SMTIV-RS232 cable.

SG2-10HR-A Program:

Step 1: Select "New Ladder Logic Program" and then select "SG2-10HR-A" for model type.

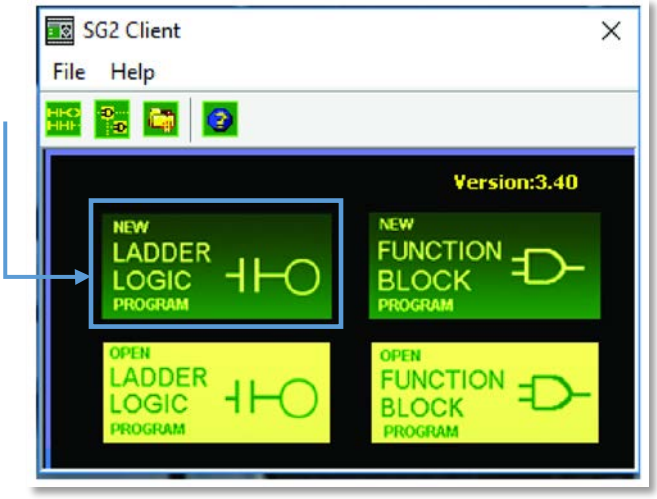

Figure 1

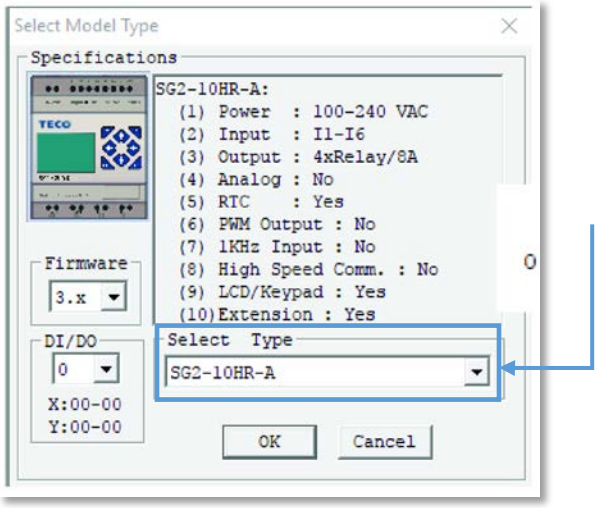

Figure 2

Step 2: Create an SG2 test program that will use an internal coil closing an external output. Place M01 contact in the first column of row 1 and run a power line to the second-to-last column. Place Q01 coil in last column as shown in Figure 3.

Figure 3

When the M01 contact is active, the Q01 output will be active.

Step 3: Now write the program to the SG2.

For further instruction on programming and how to upload a program to the SG2, please refer to the FactoryMation Knowledge Base, Programmable Controllers, http://www.factorymation.com/topic/10.

*i*View HMI Program:

Step 1: Open a new program under "New Project" and name it. Then select "Next".

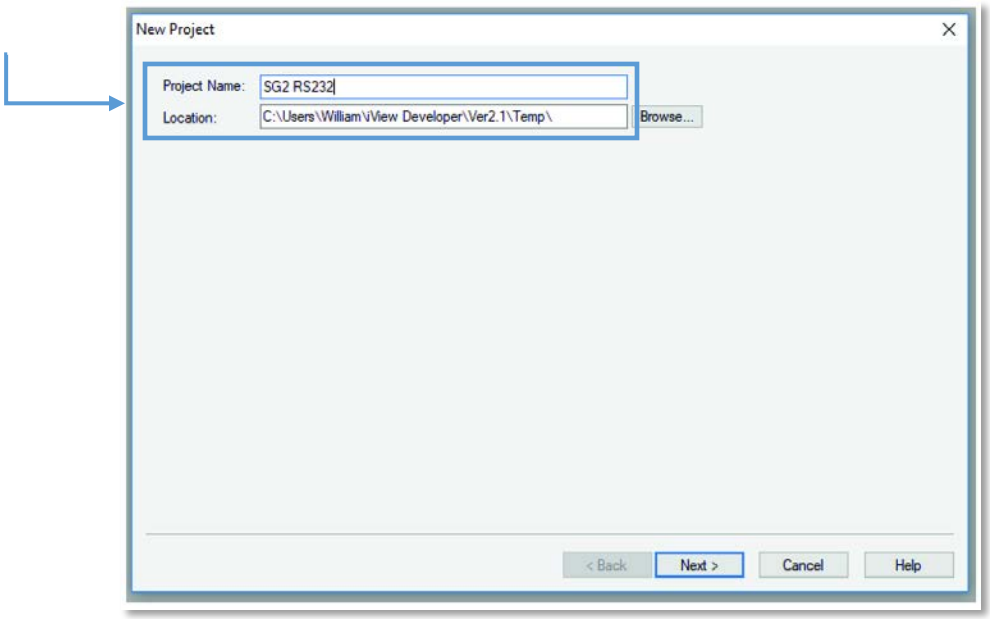

Figure 4

Step 2: Enter application name and HMI screen information and then select "Next".

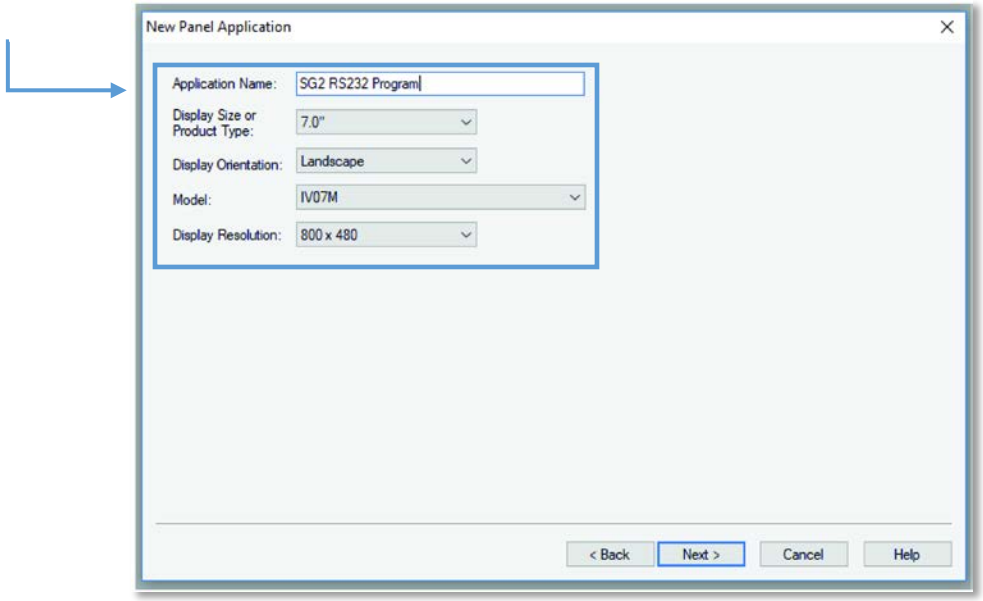

Figure 5

Step 3: Set Device to "TECO Electric & Machinery Co. Ltd." and set Server to "SG2 V3 RS232 Protocol", then select "Next".

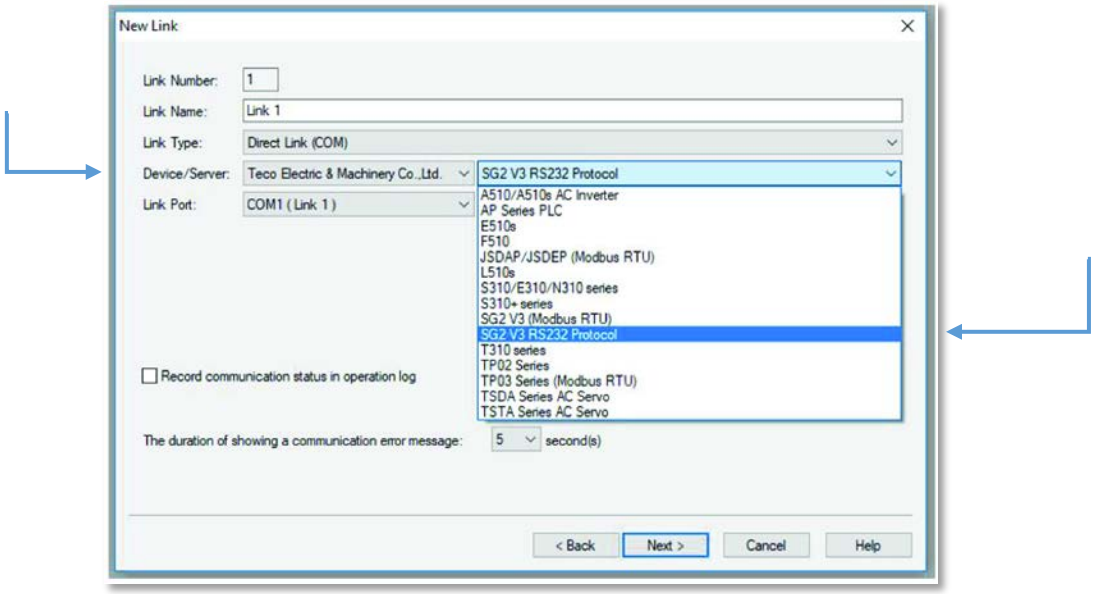

Figure 6

NOTE

If the Server is set to anything other than "SG2 V3 RS232 Protocol" the HMI will NOT be able to communicate to the SG2 using the RS-232 communication port.

Step 4: Set Link Parameters as follows to complete New Project set-up.

4.1 Baud Rate: 19200

4.2 Data Bits: 8

4.3 Parity: None

4.4 Stop Bits: 1

4.5 Panel Address: 1

4.6 PLC Address: 1

4.7 Timeout Time: 10

4.8 Command Delay: 10

4.9 Retry Count: 3

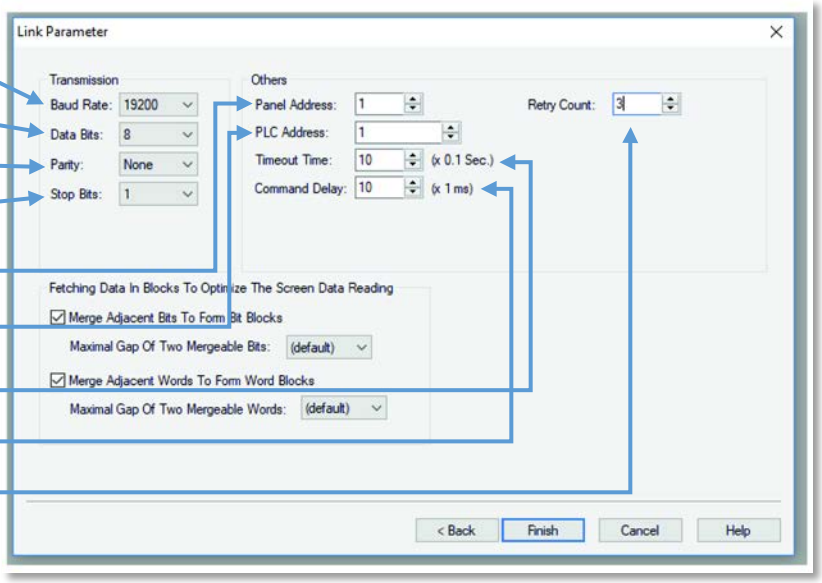

Figure 7

Step 5: Now the screen is ready to be programmed for testing. Select “Toggle Switch” to correspond to the M01 contact in the SG2 program.

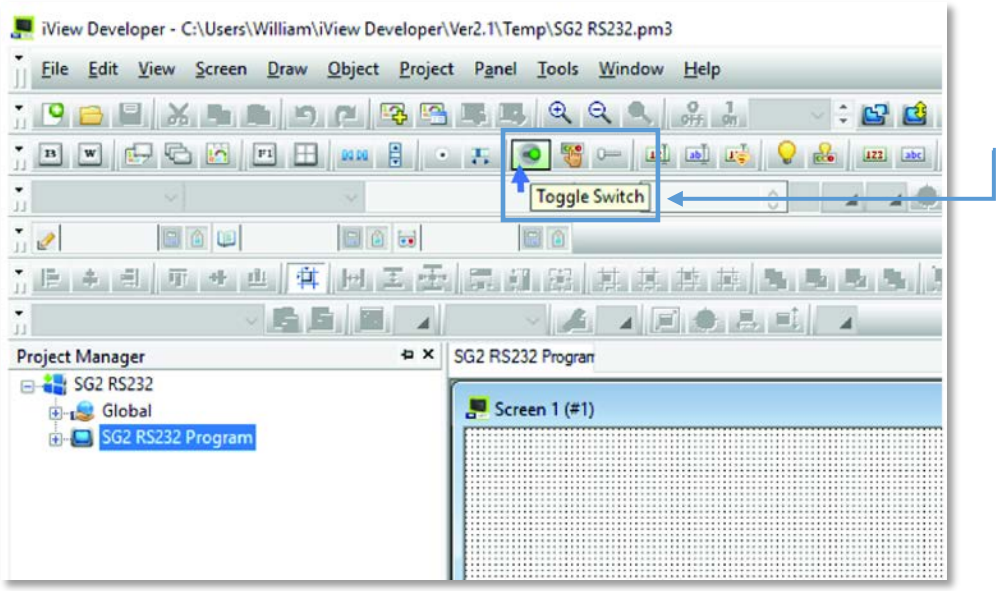

Figure 8

Step 6: Place Toggle Switch element onto HMI screen. Then double-click the element to open the programming window.

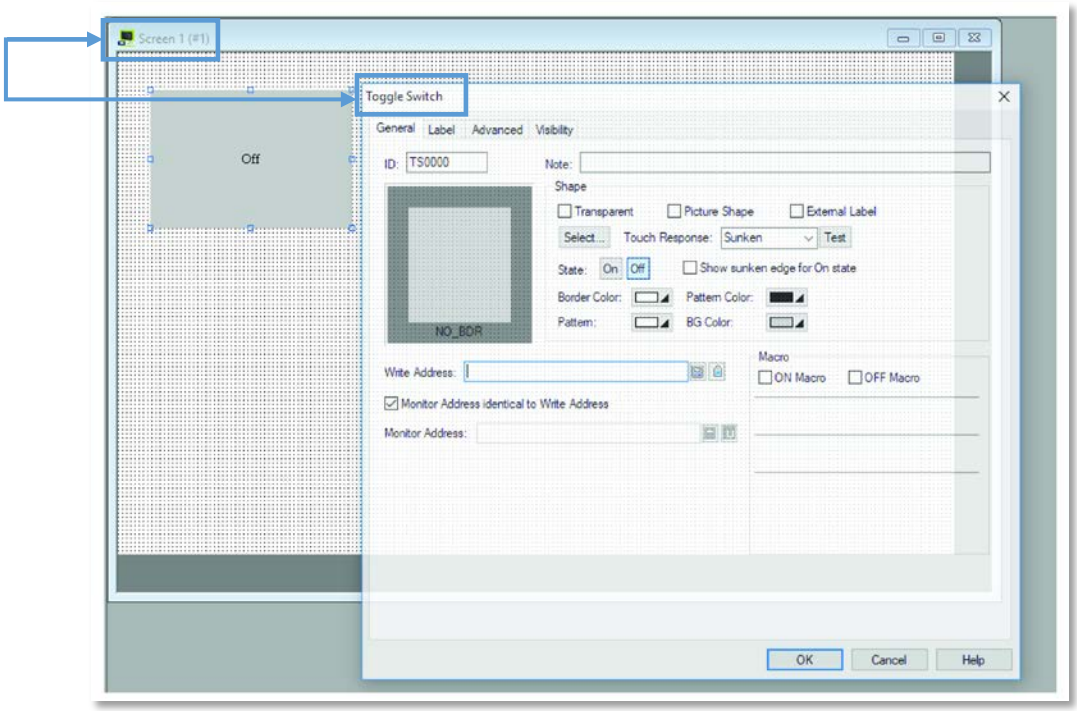

Figure 9

Step 7: Assign the "Write Address" to correspond to the M01 contact in the SG2 program.

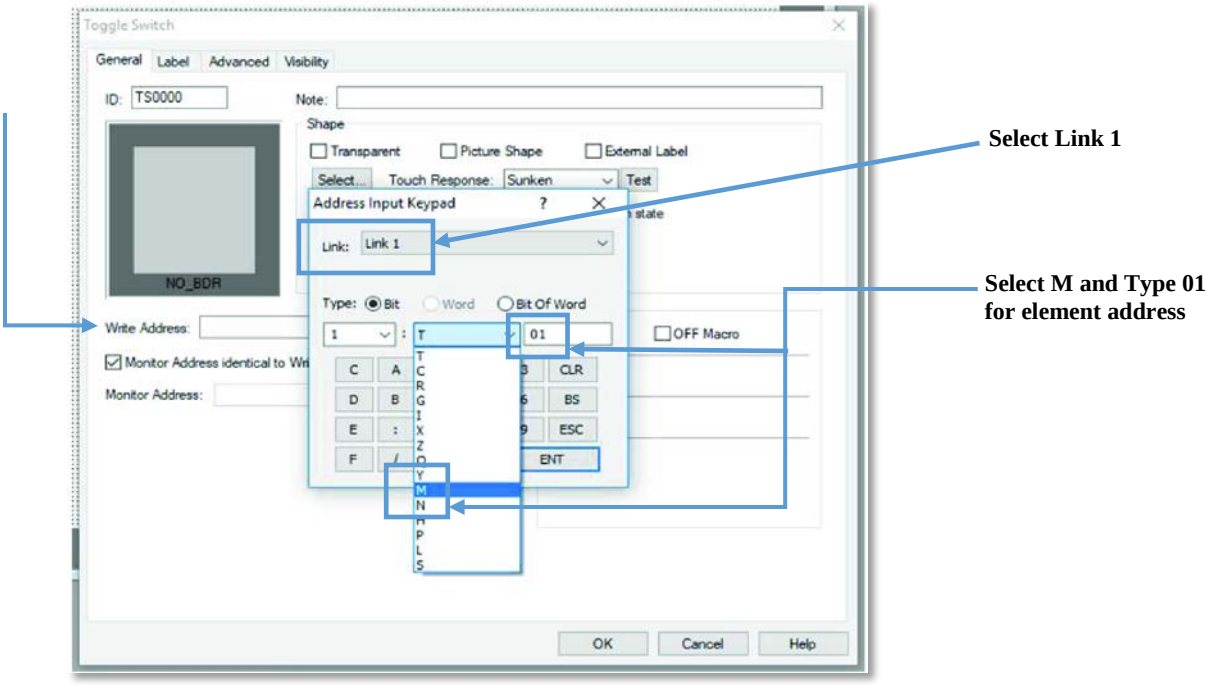

Figure 10

NOTE

For this application, the Toggle Switch will appear as a green button in the "Off" state and a red button in the "On" state.

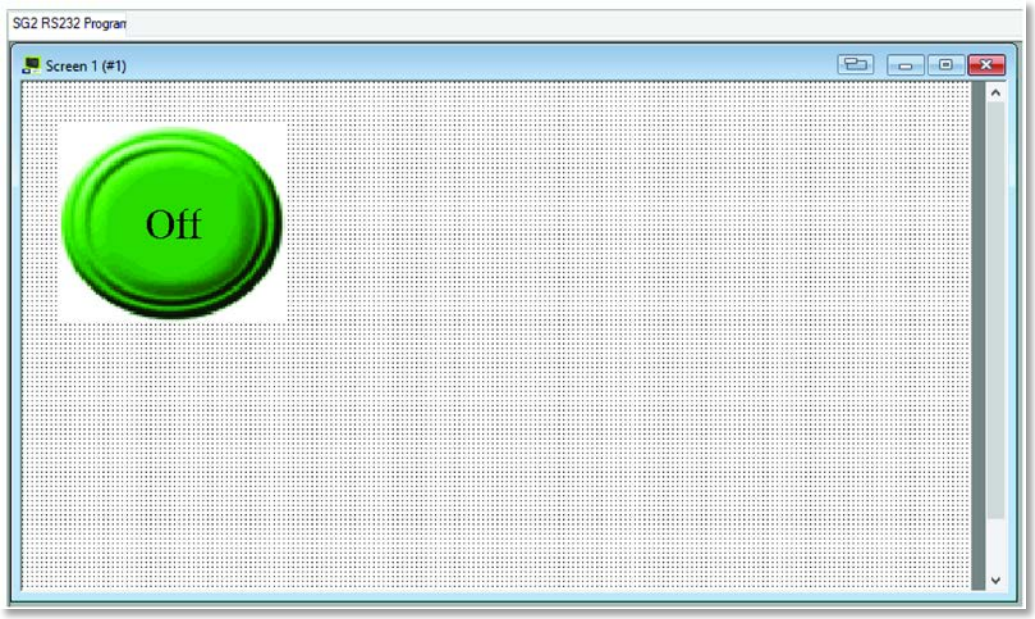

Figure 11

Step 8: Now place a Bit Lamp to indicate the Q01 output state.

Figure 12

Step 9: Place the Bit Lamp element onto the HMI screen. Then double-click the element to open a programming window.

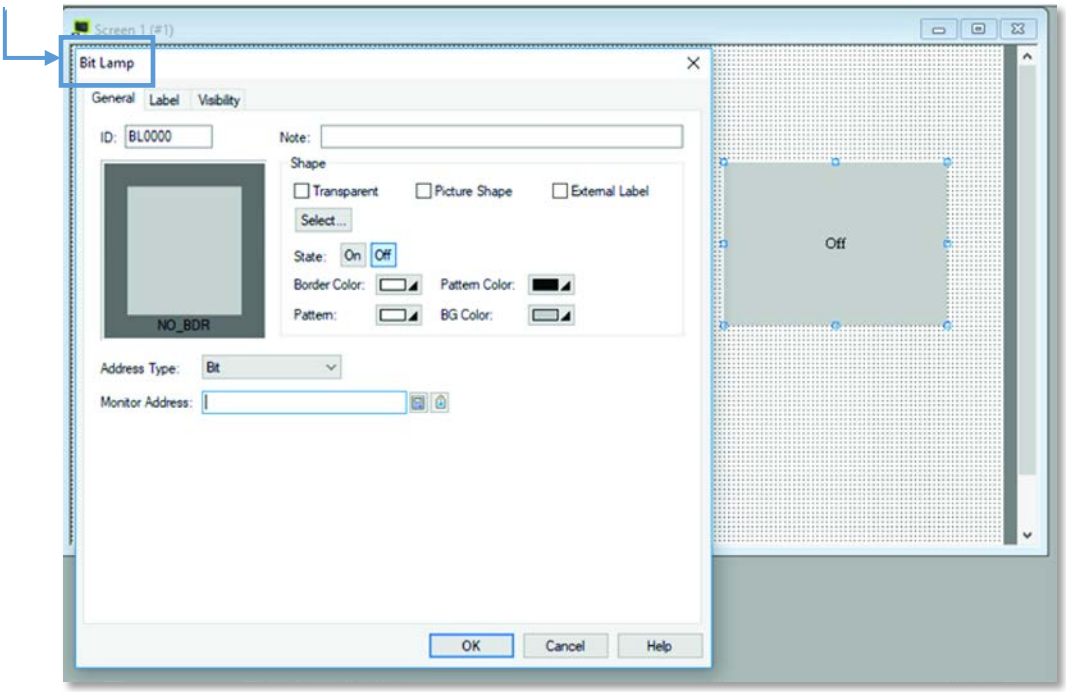

Figure 13

Step 10: Assign the "Write Address" to correspond to the Q01 output in the SG2 program.

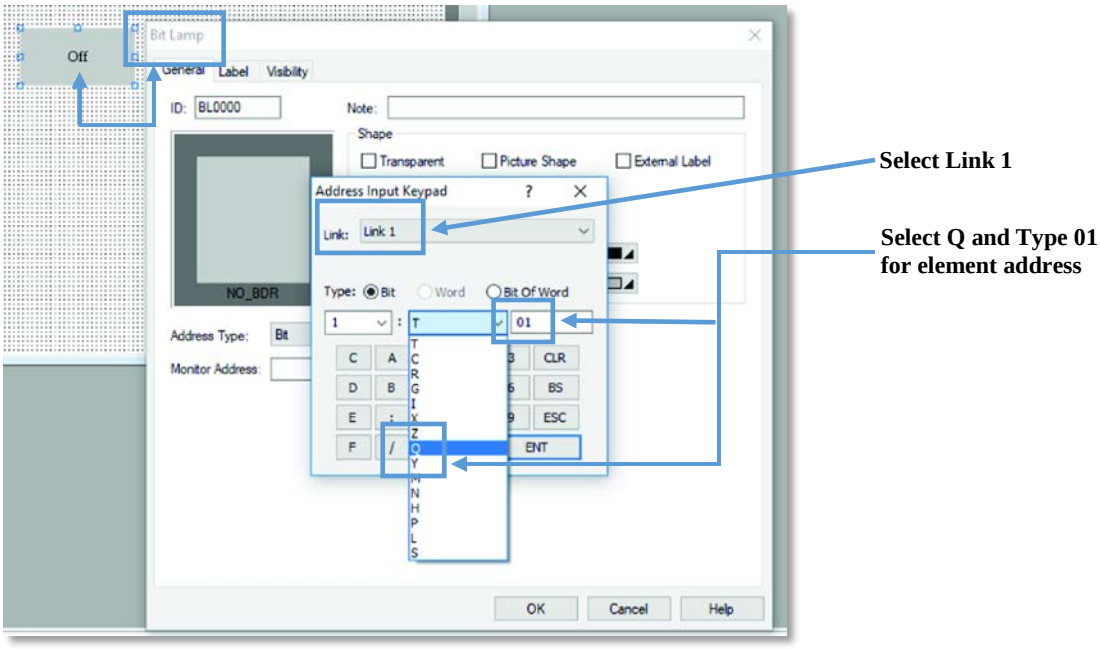

Figure 14

NOTE

For this application, the Bit lamp is a round indicator that will turn Green when the Q01 output is active.

Step 11: Compile program and then download program to the HMI screen. Figure 15 shows the HMI screen when M01 contact is not active:

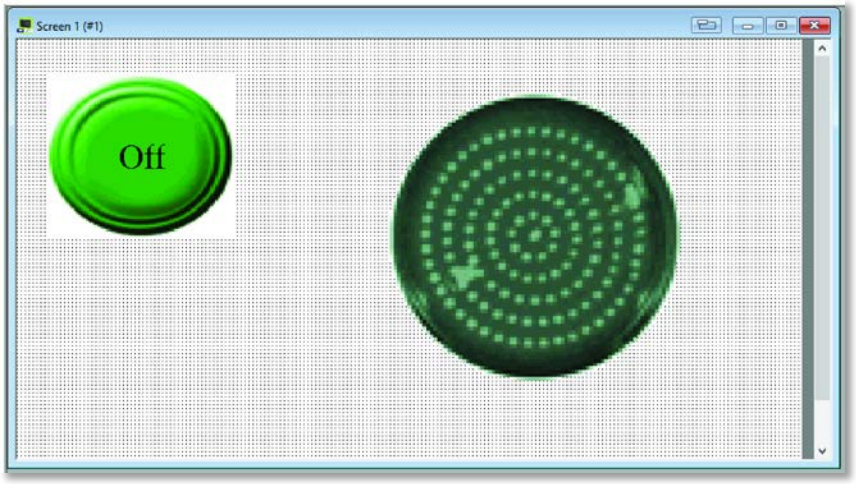

Figure 15

Figure 16 shows the HMI screen when M01 is active:

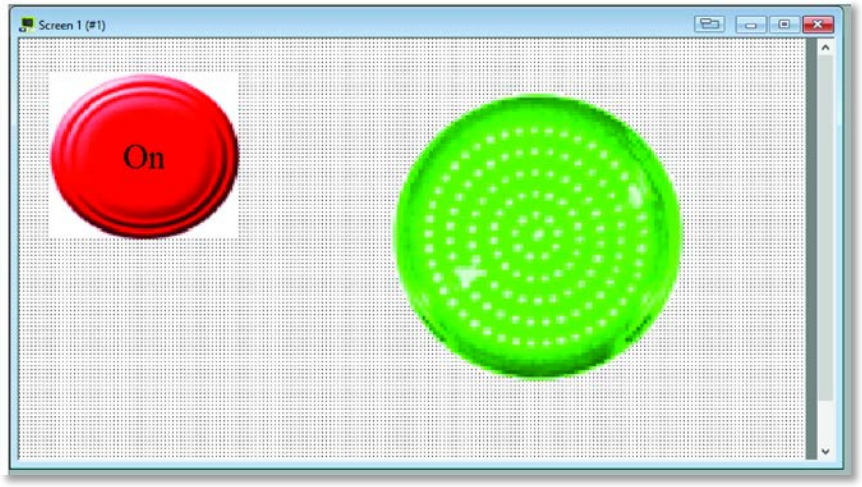

Figure 16

See Application Note AN-HMI-018 on how to connect SG2-10HR-A to *i*View HMI using the IMO SMTIV-RS232 and SG2-PL01 for RS232 communication.

You are now ready to complete your SG2 and *i*View programming as desired for your application needs.