

## 3.2 EXEMPLE IN LADDER LANGUAGE

### 3.2.1 Program Editing:

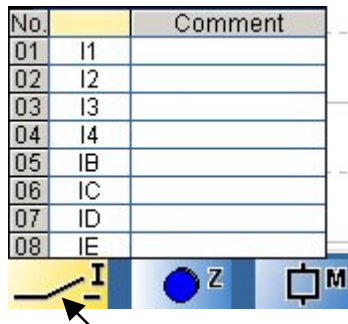
We are going to use the following example:

I1 ——— Q1

Input **I1** is connected to output **Q1**, which will be in active status (coil in contact mode).

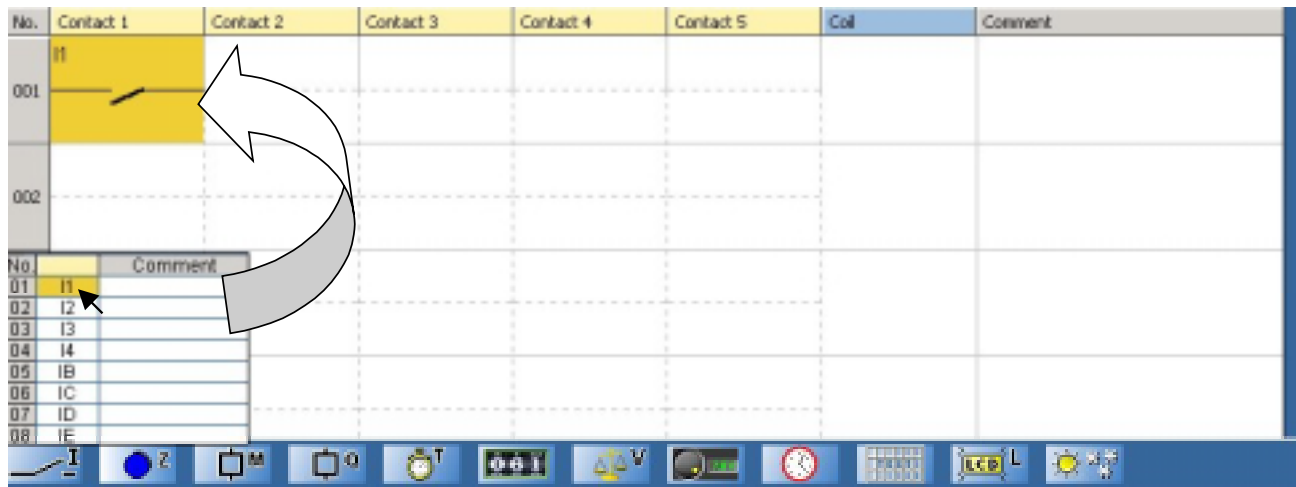
To reproduce this example in the wiring sheet:

- Move the mouse arrow over the **Discreet Input**  icon in the lower left corner:



A chart with the different contact possibilities (**I1 à IE**) appears.

Select contact **I1** in the chart by clicking and dragging the contact to the first cell in the upper left corner of the wiring sheet. Release the mouse button: Contact **I1** is now



- Now move the mouse arrow over the **Discreet Output**  icon at the bottom of the screen:

A chart with the different contact or coil possibilities appears.

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- The screenshot shows the Proteus software interface. A schematic diagram is visible in the background, featuring a switch and a component labeled 'Q1' in a yellow box. In the foreground, a table lists components for the project:
- | No | Ref | Value | Footprint | Comment |
|----|-----|-------|-----------|---------|
| 01 | Q1  | L     | S         | R       |
| 02 | Q2  | L     | S         | R       |
| 03 | Q3  | L     | S         | R       |
| 04 | Q4  | L     | S         | R       |
- A large white arrow points from the table to the schematic diagram, indicating the relationship between the component list and the circuit layout.

No.	Contact 1	Contact 2	Contact 3	Contact 4	Contact 5	Coil	Comment
001	11					Q1	

No.	Contact 1	Contact 2	Contact 3	Contact 4	Contact 5	Coil	Comment
001	11					Q1	

Simulate the program chosen by clicking on the simulation icon in the upper right corner:



A contact or a coil appears in blue if inactive (**0**) and in red if active (**1**).

Click left to force input

Click on the **I1** contact to activate. The **Q1** coil is now activated. When you click a second time on **I1** to deactivate, **Q1** is also deactivated.



### 3.2.3 Program transfer

Power on the module and connect it to the computer before transferring the program:

- Click on the corresponding icon to return to **Edit mode**:



- In the **Transfer** menu, select **Transfer Program** then click on **PC>MODULE**.

*Note 1: You cannot write in the module when it is running. Click on **STOP Module** in the **Transfer** menu to stop the module.*

*Note 2: If the module connected to the computer is not the module selected when starting the program, you may select another module by clicking on **Module/programming option** in the **Module** menu.*

*Note 3: When you have loaded a program in FBD in the preceding module (or when you first use it), the program should update the module firmware. You will be offered the option to update during transfer.*

After confirmation, the program is transferred to the module.

You can then test the program that is in the module by starting it up (in the application: Click on **RUN Module** in the **Transfer** menu).

As in the simulation, if the Zelio Logic **I1** input is active, **Q1** will be active, and if the **I1** is inactive, so is **Q1**.

### 3.2.4 Monitoring Mode

When the module is connected to the PC, it is possible to run it in real-time with the program.

*Note: Monitoring mode is only possible when the program contained in the module is identical to that in the application.*

- Click on the corresponding icon to select Monitoring mode:



Then click **RUN** to start the module. As in simulation mode, click on the contacts to activate (a left click on the mouse forces the entry status). The contacts are then activated in real time on the module.

For example, click on **I1** to activate the **Q1** coil on the screen (red color) and on the module.

### 3.2.5 Moving around the module

Use the ▲ and ▼ buttons to navigate the different module menus. The selected function flashes. To enter the function, click on **Menu/Ok**. Click on ◀ to return to the previous menu. The **Shift** key (white key) will display additional functions, in particular when performing front panel programming.

For example, find the program transferred to the module screen when the module is in OFF mode (STOP Module): In the main menu, select **PROGRAMMATION** using the ▲ and ▼ keys (the selected word will flashes). Press **Menu/OK** to confirm. You may now visualize the chosen program. Double click on **Menu/Ok** to return to the previous menu.