Set and Reset Coils

Set and Reset coils

Set and Reset coils work slightly differently to normal coils.

When the preceding logic resolves to true a Set coil will turn the output on. The output will then stay on, even if the preceding logic changes state and resolves to false. The coil must be reset using a reset coil.

When the preceding logic resolves to true a Reset coil will turn the output off. If the preceding logic resolves to false, the Reset coil will not change the state of the output.

These usually operate independently in separate ladder rungs; the only link between them is that they operate on the same output.

Note:

If the same object appears later in the program as a normal coil, the logic of this rung will determine the state of the object. The Set and Reset will be ignored.

Exercise - Create an Exception Handling Program

Learning Outcomes

By the completion of this exercise you will:

- Use the Set and Reset coils.

Note:

The term fault is used to refer to a physical problem with the process hardware that is detected and controlled by the SoMachine Basic application.

1 Create new rungs for the exception handling.

i. Add five new rungs to the Fault Handling POU and give them the following names:

Conv 1 Flt

Conv 2 Flt

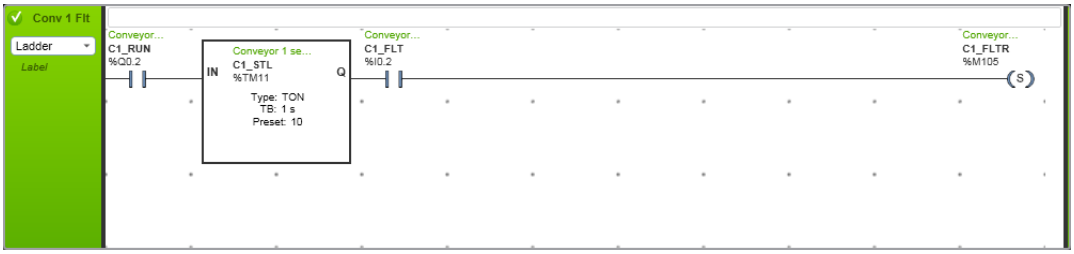
Conv 3 Flt

Reset

Fault Light

2 Program the settling timers.

i. Program the following objects for the settling timer and fault for conveyor 1.



Notice the use of the Set Coil not a normal coil. This will have to be placed using the **Set Coil** tool on the toolbar.

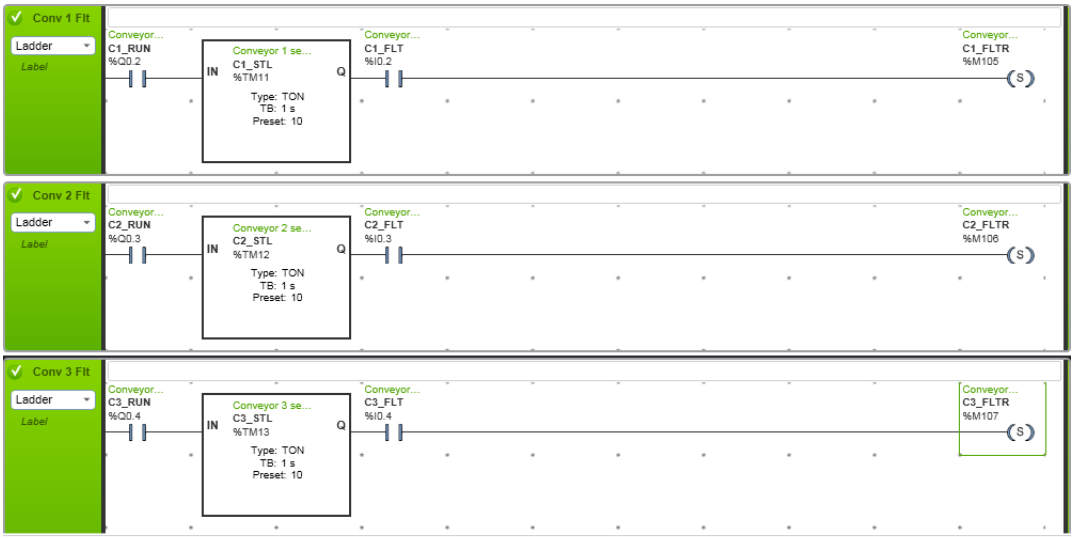
ii. Configure the following parameters for the settling timer.

%TM11	C1_STL	TON	1 s	10	Conveyor 1 settling time

iii. Configure the other two fault rungs and settling timers similarly.

Try to work out which contacts and coils are required and program them before turning the page.

Exercise - Create an Exception Handling Program (cont.)

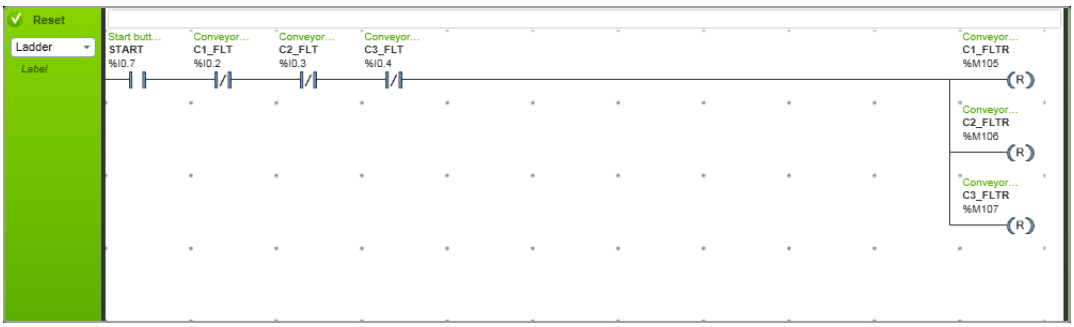


imer properties

Used	Address	Symbol	Type	Base	Preset	Comment
☑	%TM11	C1_STL	TON	1 s	10	Conveyor 1 settling time
☑	%TM12	C2_STL	TON	1 s	10	Conveyor 2 settling time
☑	%TM13	C3_STL	TON	1 s	10	Conveyor 3 settling time
☐	%TM14		TON	1 min	9999	

3 Add code to reset the faults.

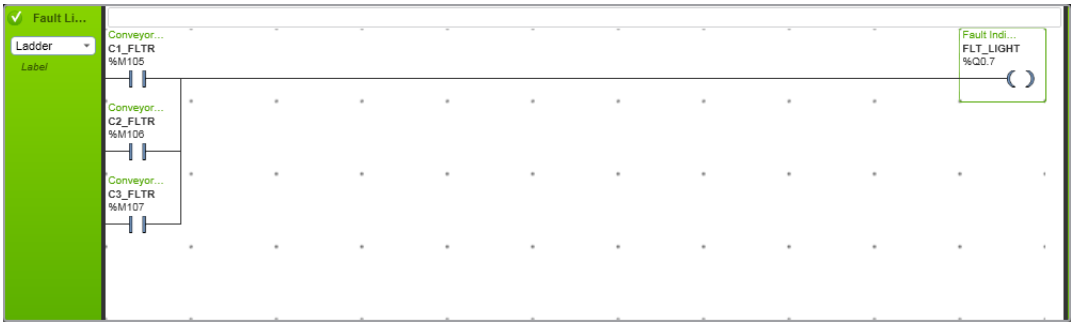
i. For each set coil, there must be a reset coil. These will be programmed into a single rung and will reset the circuits when all the faults have been removed and the start button is pressed.



Exercise - Create an Exception Handling Program (cont.)

4 Add code for the fault light.

i. Finally add the program for the fault light which will come on when there is a fault on any of the conveyors.



5 Save the application