

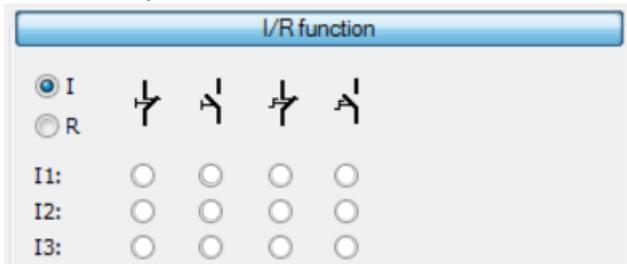
Problem 4, Ladder Logic Counters

Make a ladder logic program called "Problem4(yourname).e60" that uses markers, timers, and counters.

There are two switches for this problem:

I01	normally closed	momentary switch
I02	normally closed	momentary switch

Mark how you set the switches in Picosoft:

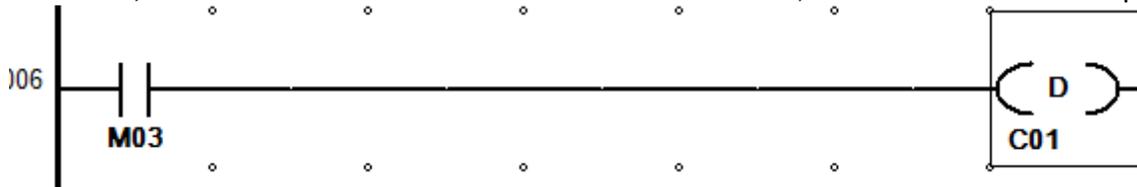


Have the program accomplish the following:

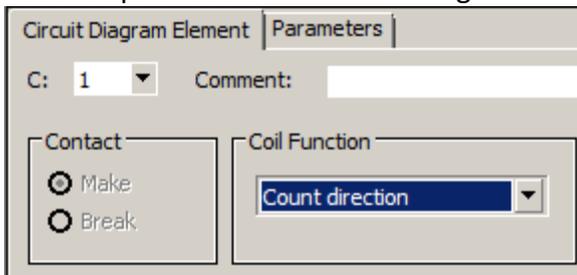
- If I01 is broken and I02 is subsequently broken within two seconds, C01 should count up by one.
- If I02 is broken and I01 is subsequently broken within two seconds, C01 should count down by one, unless C01 is already zero.
- When C01 is positive, Q01 should be on and when C01 is zero, Q01 is off.

HINT: you might want to sketch a quite finite state machine. You will need to use timer(s) and marker(s).

Big hint: you need a rung that determines counter direction, as shown below. When marker M03 is set, counter C01 will count down. When M03 is not set, counter C01 will count up.



Set the options as shown below to get C01 with the direction option as shown above:



If you believe your program worked properly before you turned it in, check this box:

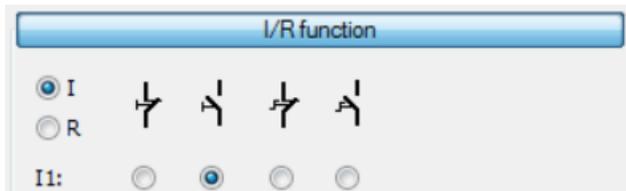
Problem 7, Ladder Logic Timers

Make a ladder logic program called "Problem7(yourname).e60" that uses markers, timers, and outputs.

There is one switch for this problem:

I01 normally open momentary switch

Set switch I01 in Picosoft as:



Have the program accomplish the following:

1. Initialize the program so marker M01 is set when it starts running. Output Q01 should turn on immediately when the program starts.
2. During the first 10 seconds, if the I01 is made within this period, turn off Q01 and turn on Q03 for 5 seconds. Otherwise, if I01 is not made within the first 10 seconds, turn off Q01 and turn on Q02 and leave it on.

If you believe your program worked properly before you turned it in, check this box: