once the photeye is broken, maintain the timer until the solnoid turns on -preset value can be changed by F2 on HMI

1

PHOTOEYE
X001

A

TD1 > 0

delay 1 sol on delay
T1

A

Enable

Timer(ON Delay) T1
Current Value Not Retained
Unit ms
SetPoint delay 1 setpoint DS1
Current TD1

Output delay 1 sol on delay T1

This rung calcualtes the remaining time delay left before solenoid turns on - in milliseconds

2

Math
DS1 - TD1

Result REM1 DS4

Once the remaining milliseconds = 0, this rung prevents the value form going negative (for display purposes

3

REM1 DS4 < 0

Copy Single
Src 0
Des REM1 DS4

This turns the remaining delay time form milliseconds into seconds (x.x)

4

Math
DS4 / 1000

Result REM1 SEC DF1

sets the minimum value for delay 1 timer at 1/2 sec (500mS)

5

delay 1 setpoint DS1 < 500

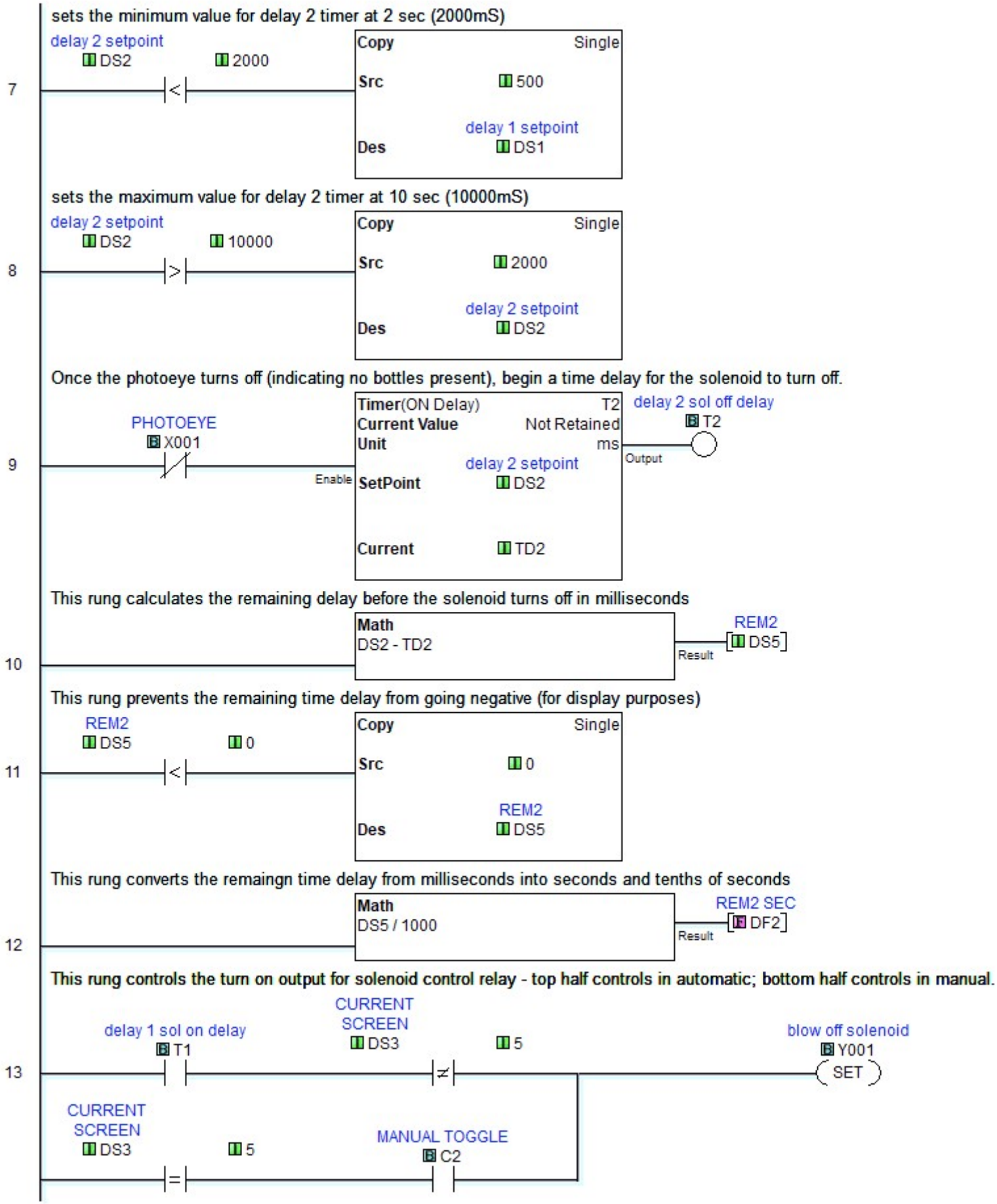
Copy Single
Src 500
Des delay 1 setpoint DS1

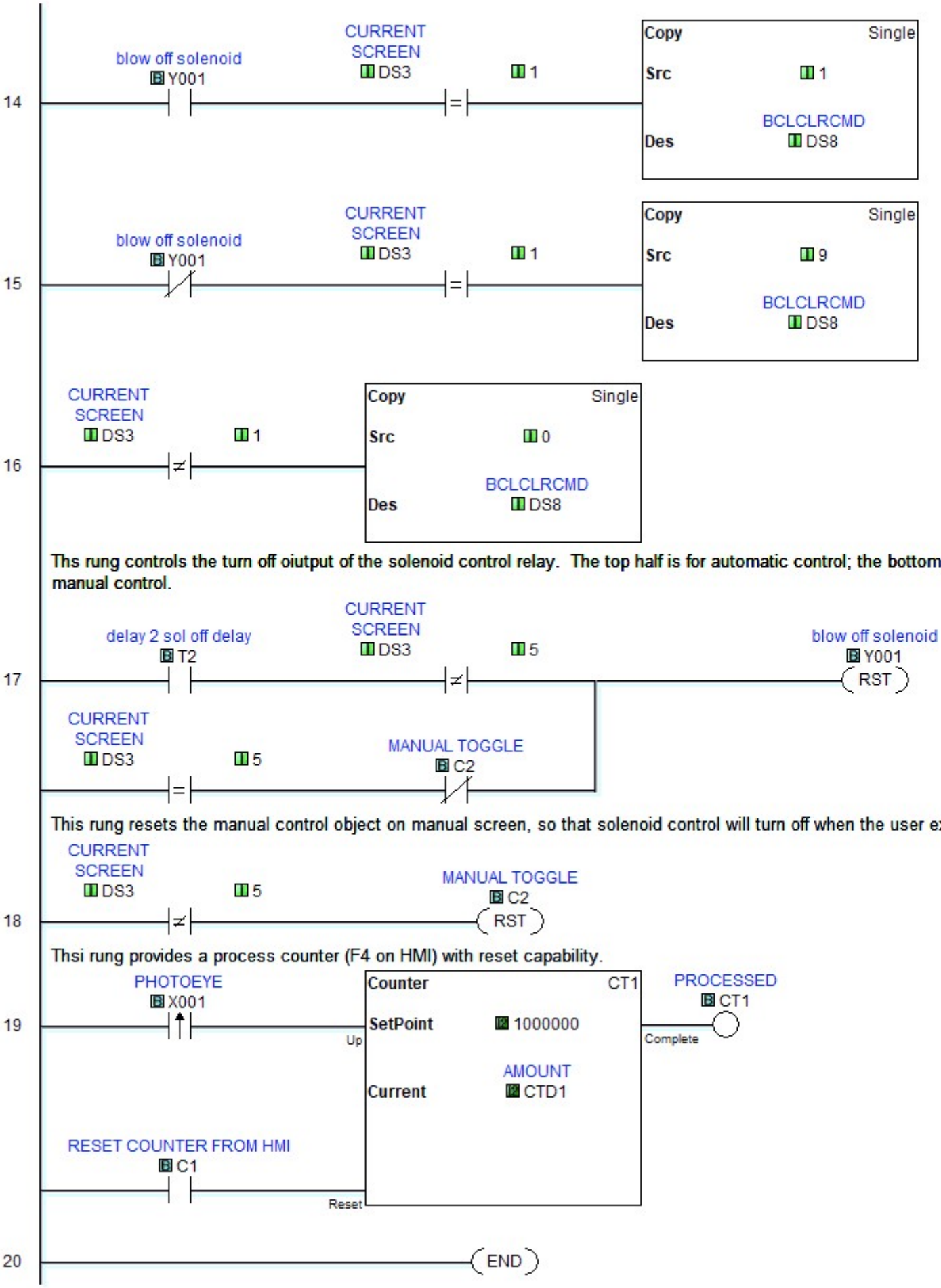
sets the maximum value for delay 1 timer at 5 sec (5000mS)

6

delay 1 setpoint DS1 > 5000

Copy Single
Src 5000
Des delay 1 setpoint DS1


sets the minimum value for delay 2 timer at 2 sec (2000mS)
delay 2 setpoint
DS2
2000
7
Copy
Single
Src
500
delay 1 setpoint
Des
DS1
sets the maximum value for delay 2 timer at 10 sec (10000mS)
delay 2 setpoint
DS2
10000
8
Copy
Single
Src
2000
delay 2 setpoint
Des
DS2
Once the photoeye turns off (indicating no bottles present), begin a time delay for the solenoid to turn off.
PHOTOEYE
X001
9
Enable
Timer(ON Delay)
T2
Current Value
Not Retained
Unit
ms
delay 2 setpoint
SetPoint
DS2
Current
TD2
delay 2 sol off delay
T2
Output
This rung calculates the remaining delay before the solenoid turns off in milliseconds
10
Math
DS2 - TD2
REM2
DS5
Result
This rung prevents the remaining time delay from going negative (for display purposes)
REM2
DS5
0
11
Copy
Single
Src
0
REM2
Des
DS5
This rung converts the remaingn time delay from milliseconds into seconds and tenths of seconds
12
Math
DS5 / 1000
REM2 SEC
DF2
Result
This rung controls the turn on output for solenoid control relay - top half controls in automatic; bottom half controls in manual.
13
delay 1 sol on delay
T1
CURRENT SCREEN
DS3
5
blow off solenoid
Y001
SET
CURRENT SCREEN
DS3
5
MANUAL TOGGLE
C2


14
blow off solenoid
Y001
CURRENT SCREEN
DS3
=
1
Copy
Single
Src
1
Des
BCLCLRCMD
DS8
15
blow off solenoid
Y001
CURRENT SCREEN
DS3
=
1
Copy
Single
Src
9
Des
BCLCLRCMD
DS8
16
CURRENT SCREEN
DS3
≠
1
Copy
Single
Src
0
Des
BCLCLRCMD
DS8
Ths rung controls the turn off oiutput of the solenoid control relay. The top half is for automatic control; the bottom half is for manual control.
17
delay 2 sol off delay
T2
CURRENT SCREEN
DS3
≠
5
blow off solenoid
Y001
RST
CURRENT SCREEN
DS3
=
5
MANUAL TOGGLE
C2
This rung resets the manual control object on manual screen, so that solenoid control will turn off when the user exits screen 5
18
CURRENT SCREEN
DS3
≠
5
MANUAL TOGGLE
C2
RST
Thsi rung provides a process counter (F4 on HMI) with reset capability.
19
PHOTOEYE
X001
Up
Counter
CT1
SetPoint
1000000
Current
AMOUNT
CTD1
Complete
PROCESSED
CT1
RESET COUNTER FROM HMI
C1
Reset
20
END