Path: c:\directsoft5\queueingsortingconveyorjashley\queuingsortingconveyorfinalized.prj Save Date: 07/29/25 11:28:21
Creation Date: 07/28/25 10:12:44
PLC Type: 250(-1)
Class ID: DirectLogic 205 Series
Link Name: dl\_205\_conn

Seal in circuit for motor. Interrupted by stop pb.

```
StartPB StopPB MtrFwdCoil Y20

MtrFwdCoil Y20

MtrFwdCoil Y20
```

Holding start PB while not in AutoSort Mode will start delay timer to send system into AutoSort Mode.



Holding Start PB while in AutoSort Mode will start delay timer used to exit AutoSort Mode.



When AutoSort Mode timer on delay fully energizes, set sytem in AutoSort Mode.

SolenoidValve Y22

34

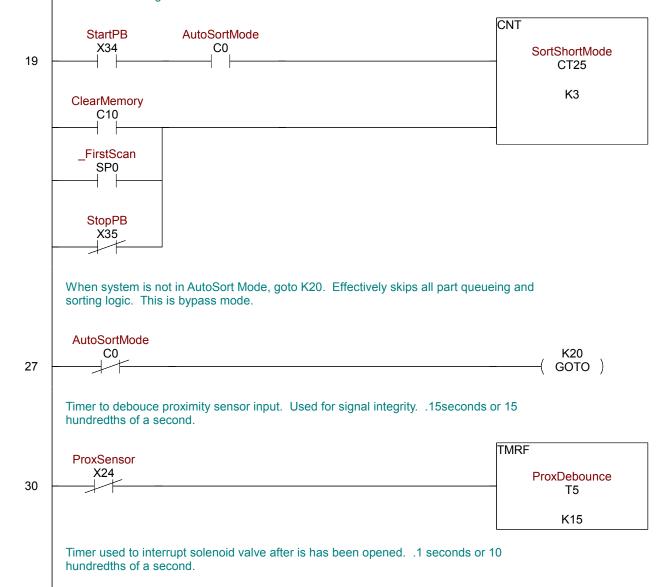
TMR

SolDeenergizeTMR

T7

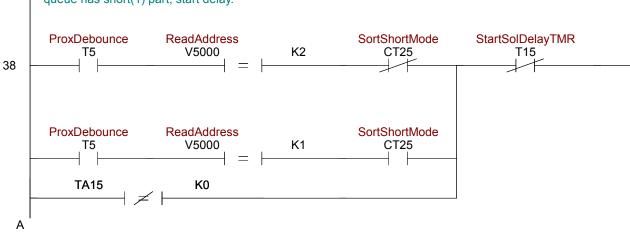
K10

Pressing Start PB 3 times while in AutoSort Mode will set system into SortShort Mode. Where the sorting is the inverse of AutoSort Mode.



Α

Conditions to delay start of solenoid energizing sequence. Once Prox signal detects part, if in AutoSort and top of queue has tall(2) part, start delay. If in SortShort Mode and top of queue has short(1) part, start delay.



TMRF

StartSolDelayTMR
T15

K335

Once solenoid energize delay has completed, energize solenoid valve. Interrupted by SolDeenergizeTMR

StartSolDelayTMR SolDeenergizeTMR

T15 T7 Y22

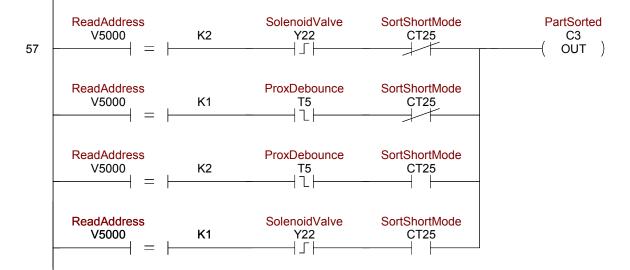
OUT

SolenoidValve

Y22

Y22

Conditions to generate part sorted bit. Conditions needed for each part type in each mode. In SortShort, generate part sorted when top of queue is 1 and sol valve has opened and closed. Generate bit when top of queue is 2 and prox sensor has detected then stop detecting part. Inverse for AutoSort Mode.



Timer to debounce lower photo eye signal. .1 seconds, 10 hundredths of a second.

```
LowPeye
X26

77

BottmPeyeDbounce
T13

K10
```

Once debounced low pEye signal has been received, move 1 into v2000 and generate ShortPartConfirmed bit.

```
BottmPeyeDbounce
T13 TA11 K0

K1

OUT

RecentCnfrmPrt
V2000

ShrtPrtConfirmed
C2
OUT)
```

Timer to denote when both photoeyes have been low for some time. .25 seconds, 25 hundredths of a second. Used to reset accumulating timer.

```
TopPeye LowPeye
X25 X26

BothSensorsLow
T21

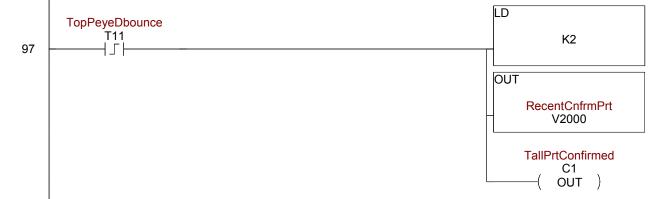
K25
```

Page 5

Timer to debounce Top Photoeye signal. .1 seconds, 10 hundredths of a second.

```
TMRAF
          TopPeye
            X25
                                                                             TopPeyeDbounce
92
                                                                                  T11
                                                                                  K10
       BothSensorsLow
            T21
```

When top photoeye signal has been debounced/confirmed, load 2 into memory address v2000 and generate TallPartConfirmed bit.



When a tall or short part has been confirmed, generate request queue bit.

```
TallPrtConfirmed
                                                                                     RegestQueue
              C1
                                                                                          C4
101
                                                                                         OUT
        ShrtPrtConfirmed
```

When requesting queue. Add CTA20 to v5000 to get empty write address. Store in v3100 to point at later. Generate Request Received bit.



When queue request has been properly recieved, move current v2000 value into address stored in v3100. Generate part queued bit.



When a part has been sorted, load the 8 addresses in the stack after v5000 and move them up one address

