

DEMETRIUS JOHNS ON, QUESTION 27 CIS-381 FINAL EXAM 4-20-21

	Interlock (for PLC – work cell controller)	Type	Condition
1	Microswitch (proximity sensor → PLC)	Input	Tells PLC if a part is in the machine; depends on sensor read
2	Signal: Acquire and load part into machine (PLC → Robot controller)	Output	No part in machine; depends on proximity sensor microswitch feedback
3	signal: start machine cycle (PLC → machine)	Output	Part is in machine
4	Machine cycle Timer limit switch (machine timer → PLC)	Input	Timer reaches 0
5	Signal: unload finished part and place on output conveyor (PLC → Robot controller)	Output	Machine cycle timer = 0;

- $I1$ = ^{Micro}proximity switch ^{sensor}
- $I2$ = machine cycle timer limit switch
- $O1$ = Acquire + load part into machine
- $O2$ = start machine cycle
- $O3$ = unload finished part, place on output conveyor

