	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;