Scene 1 Factory IO

Objective: Transport the box till it reaches the sensor at the end of the conveyor .

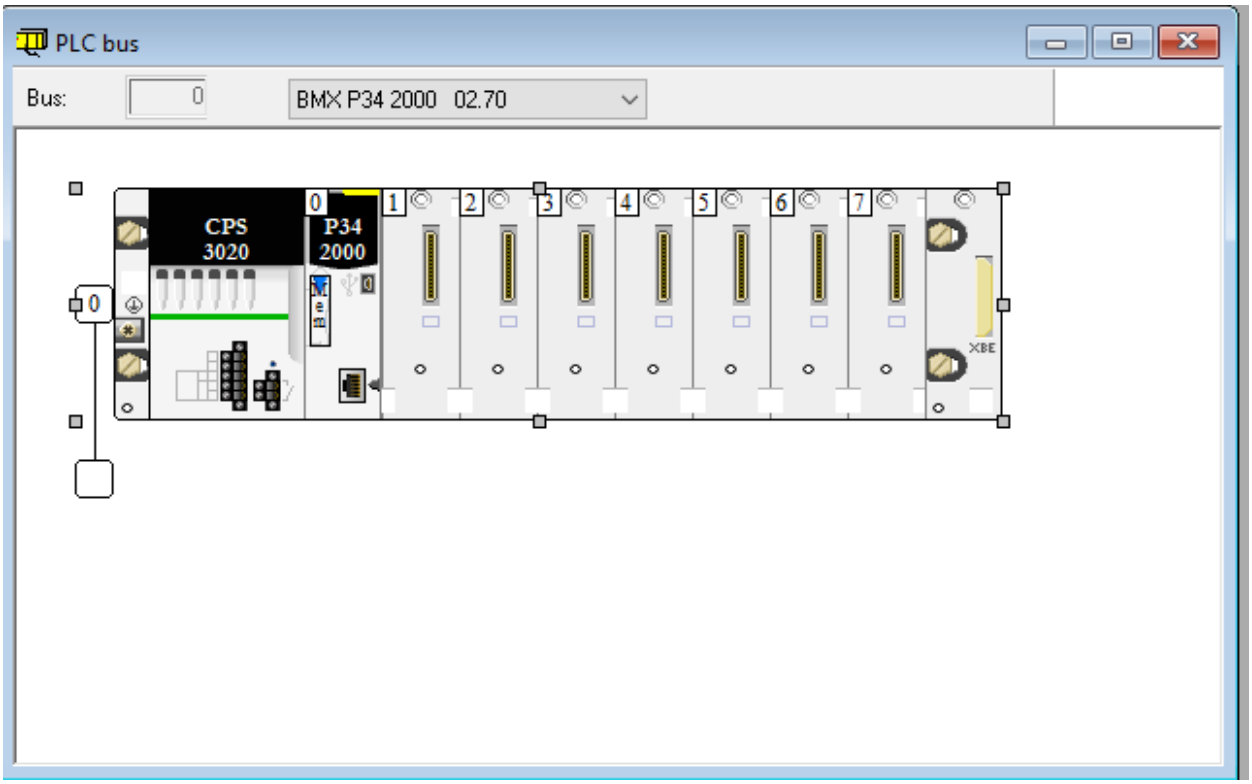
Solution : the motor starts when the start push button is pressed , motor stays on using a latching circuit, pressing the stop button or sensor activation at the end of the line are two ways to stop the box .

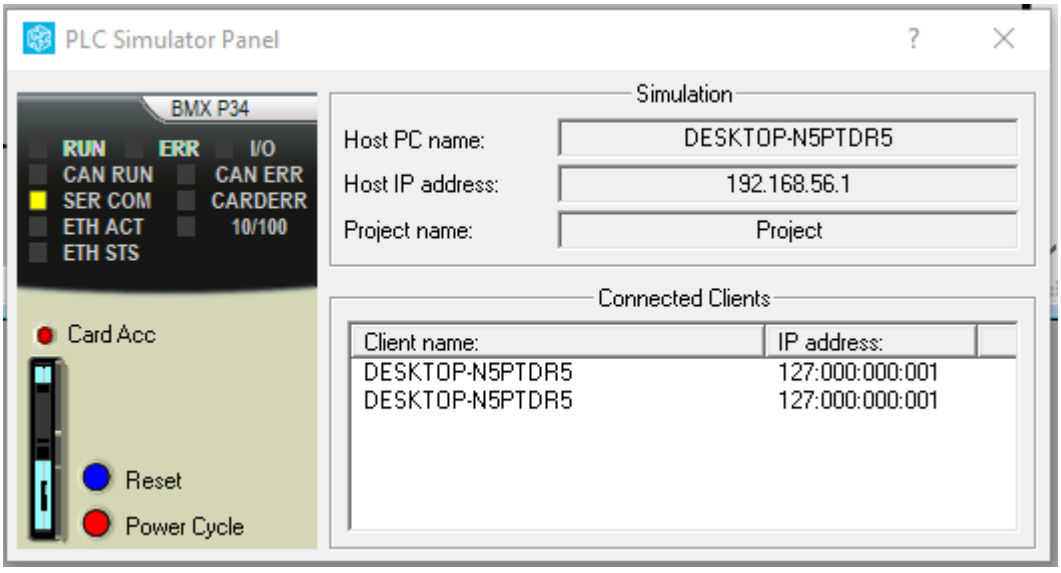
Software Used : Factory IO and Unity Pro XL

Communication Protocol : Modbus Protocol is used , Modbus TCP/IP client in Factory io can only use coils and inputs, in Unity Pro both coils and input are stored in internal Boolean memories (%M) .

Both Unity Pro XL and Factory IO are connected to PLC simulator at local host 127.0.0.1 .

1.Hardware Configuration and PLC simulator Panel (2 connected Clients, factory io and unity pro xl)

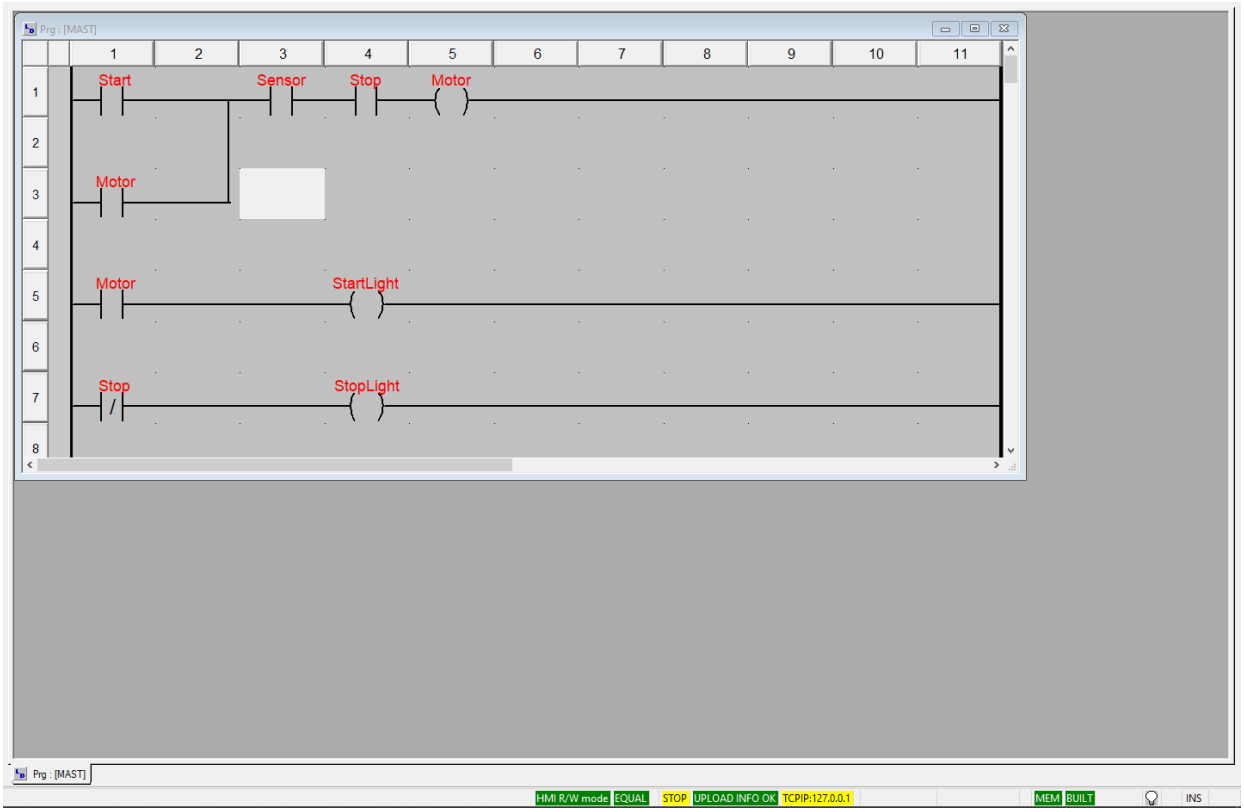




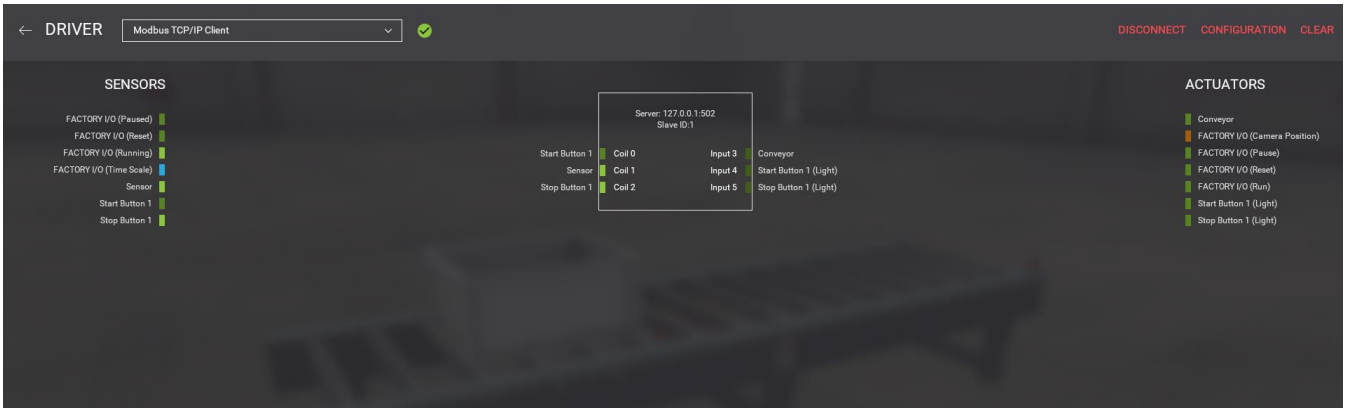
2.Data variable with memory address %M

Name	Type	Value	Comment	Address
Motor	EBOOL			%M3
Sensor	EBOOL			%M1
Start	EBOOL			%M0
StartLight	EBOOL			%M4
Stop	EBOOL			%M2
StopLight	EBOOL			%M5

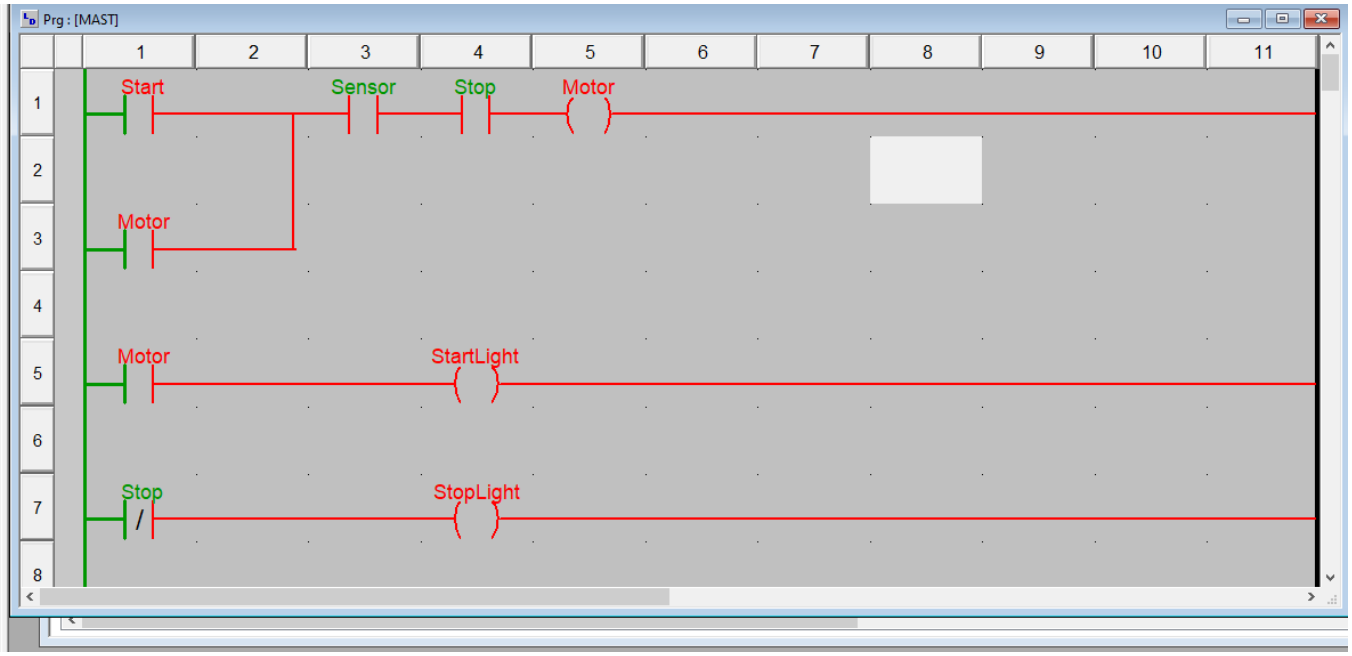
3.Main PLC program (ladder diagram) and localhost at 127.0.0.1



4. Factory IO Client Server settings :



5. Unity Pro XL: Default value of Ladder diagram value.



6.Factory IO: Docked Sensor and actuators tags when the system is running.

1 System at Rest

2 Start button is pressed

3 Container reached the sensor