



**KLS'S GOGTE INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF MECHANICAL ENGINEERING**

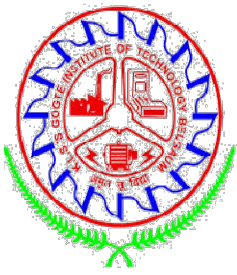


**CREINTORS AUTOMATION SOLUTIONS PVT.LTD.**

**PRESENTS**

# **HONOR'S PROGRAM IN PLC PROGRAMMING**





# Syllabus of Course

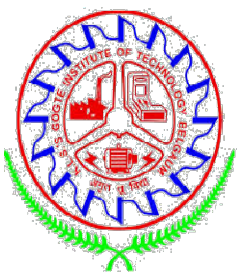


## 1. Basics of PLC

## 2. PLC Programming

## 3. SCADA Programming





# Allen Bradley PLC

## Latach and Unlatch Blocks



### Solution - 1

By pressing the start push button the input I:0/1 will be on and hence bit B3:0/0 will be On too. Once the operator release the start button. The start button input signal will go Off but B3:0/0 will stay on because of the OTL (Latch) instruction that we have used. This bit will stay on as long as the Stop button is not pushed.

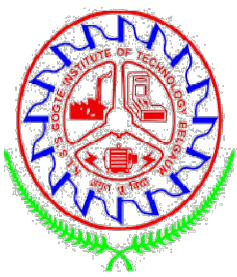


Once the stop button is pushed the rung will evaluate to true and hence the OTU (unlatch) instruction will kick in and release the bit B3:0/0.



When bit B3:0/0 is on or off; the motor will be energized or de-energized





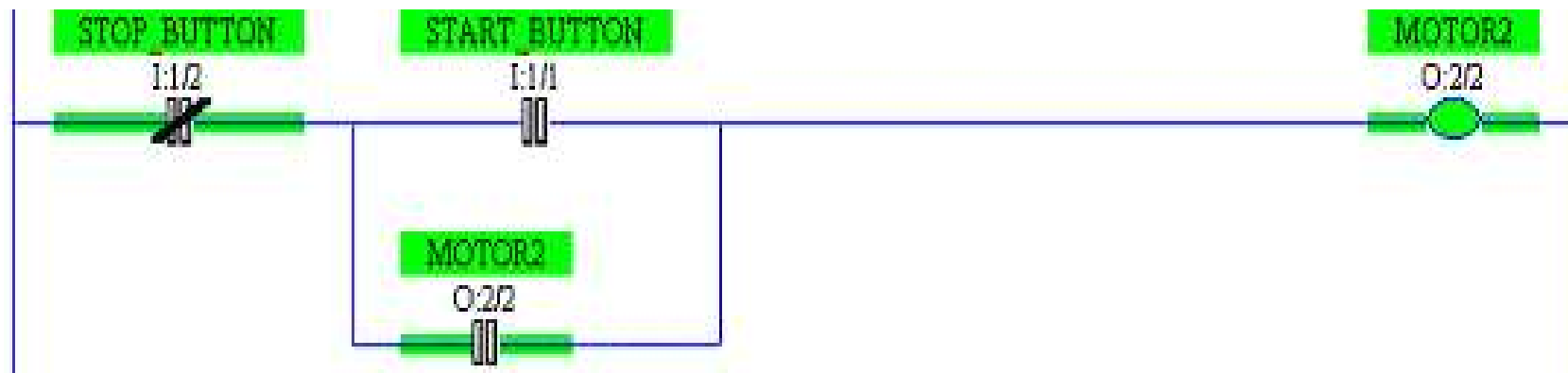
# Allen Bradley PLC

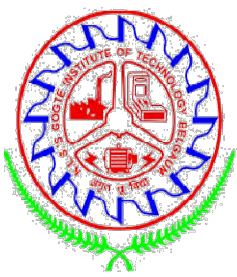


## Solution - B

Rung0: When we press on the start button the rung will evaluate to true hence the motor will be energize.

Once the start button is release it's input will go off but the motor will stay on since we have the motor as a by pass to the start button. Therefore the motor will keep running. Now, once we press the stop button. The rung will evaluate to false, and that is how we stop the motor.



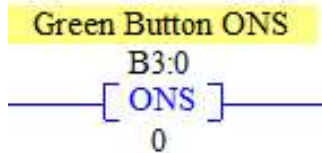


# Allen Bradley PLC



## OSR - One Short Rising

The OSR instruction is a retentive input instruction that triggers an event to occur one time. Use the OSR instruction when an event must start based on the change of state of the rung from FALSE-to-TRUE.



There are two types of OSR functions available i.e.

One Shot Rising Instructions

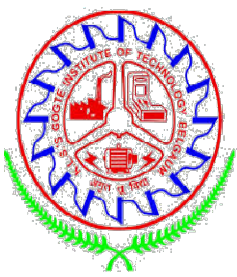


One Shot Shot Falling Instructions



Storage Bit: This bit is to store the status of input.

Output Bit: This bit store the value when it executes the function of Block



# Allen Bradley PLC



## One Shot Rising (OSR)

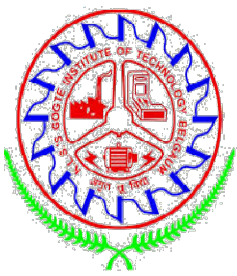
One shot rising - It gives single pulse at the time of going ON condition. Storage bit stores the status of input.

Output bit stores the status of function performed by the block.

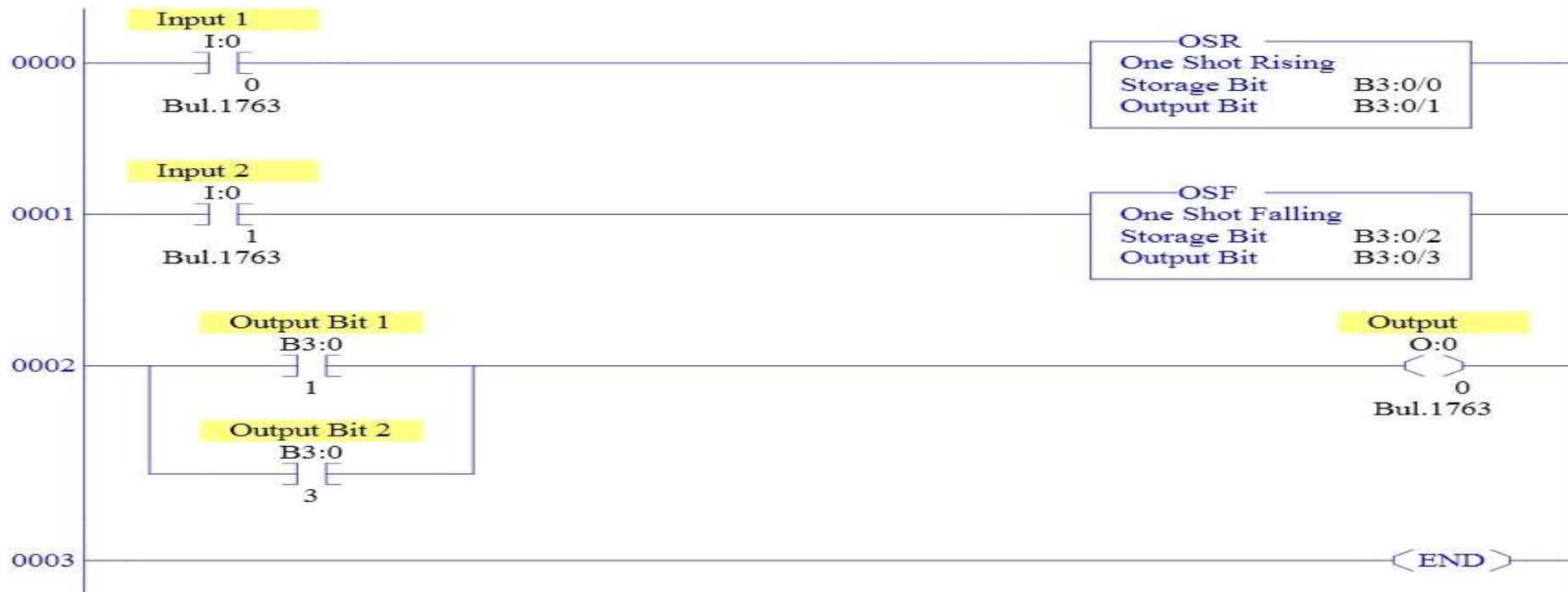
## One Shot Falling (OSF)

One shot falling gives single pulse at the time of going input's OFF condition which is connected to it. Storage bit stores the status of input. Output bit stores the status of function performed by the block.





# Allen Bradley PLC



## RUNG 0000

Input 1 (I:0/0) is connected to OSR block. When input is turned ON, Storage bit (B3:0/0) turns 1 and output bit (B3:0/1) turns “1” for a second and goes to “0” again.

## RUNG 0001

Input 2 (I:0/1) is connected to OSF block. When input is turned ON, Storage bit (B3:0/2) turns 1 and output bit (B3:0/3) remains “0”. When Input turns OFF, Output bit turns “1” for a second and goes to “0” along with storage bit.

A black and white photograph of a perforated metal surface, possibly a grate or a screen. The surface is covered with a grid of small, circular holes. The lighting is dramatic, with strong highlights and deep shadows, creating a textured appearance. The text "THANK YOU" is overlaid in the center in a bold, white, sans-serif font.

**THANK YOU**