



Andhra Pradesh State Skill Development Corporation



Basics of PLC

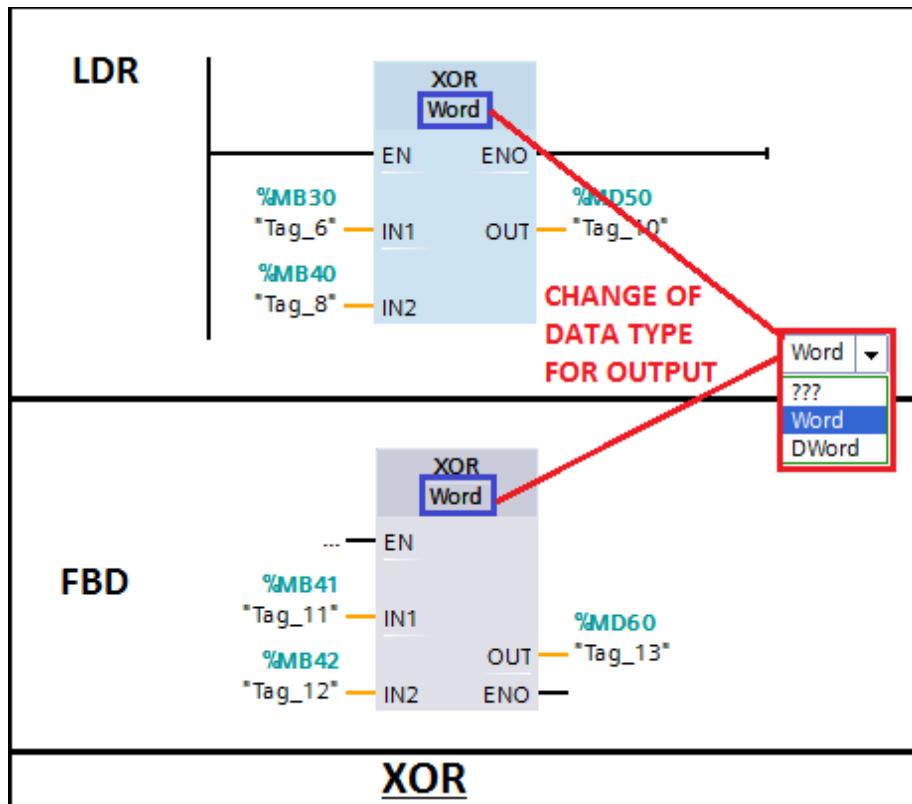
Ladder Logic Programming for logic gates



Binary Logic Operations-Exclusive-OR (XOR)

XOR logic operation

- With the XOR logic operation For an XOR logic operation with more than 2 operands, the RLO:
- = '1', when an uneven number of checked operands has Status '1'
- = '0', when an even number of checked operands has Status '1'.



XOR in the programming languages FBD and LAD

In the LAD programming language, there is no explicit XOR logic operation. It must be generated by programming the discrete instructions shown in the picture above.

In the FBD programming language, the XOR logic operation is represented by the XOR function block. This block takes two inputs (IN1 and IN2) and produces one output (OUT). The inputs can be various data types, and the output is also a data type. In the example shown, the output is a Word data type.

All inputs of the logic operations can be programmed as check for signal state or Status '0' and '1', regardless of whether a hardware NO contact or NC contact is connected in the process.



- For an XOR logic operation with 2 inputs, the result of logic operation (RLO) = '1', when one and only one of the two inputs signals is Status '1'.