

Controlling of a bending machine.....

1. Requirements

The bending of exhaust pipes is controlled by using of SR. The procedure isn't running until both the pipe and connector are present.

2. SR Solution

The proximity switch IA0 detects whether a pipe is present. Then the pipe is clamped in the fixed position by the electromagnetic valve QA0, and if the connector is also present, the pipe is unwound and start bending by the enable reset relay QA1 (QA1=0).

The maximum limited time for bending is delayed for 5 seconds. If no pipe is detected within 5 seconds, the bending procedure is canceled by setting the enable relay (QA1=1).

If a part is detected as defect and imperfection by the detected switch IA2, the indicator QA2 is lighting, then confirm a fault by IA3 and unload the defective pipe, and then the bending procedure is restarted from the beginning.

3. Components used

Input	Output
IA0 Sensor-"pipe present" (NO contact)	QA0 Electromagnetic valve for clamping pipe
IA1 Sensor-"connector present" (NO contact)	QA1 Enable output relay
IA2 Detected switch (NO contact)	QA2 Fault indicator
IA3 Confirmed button (NO contact)	

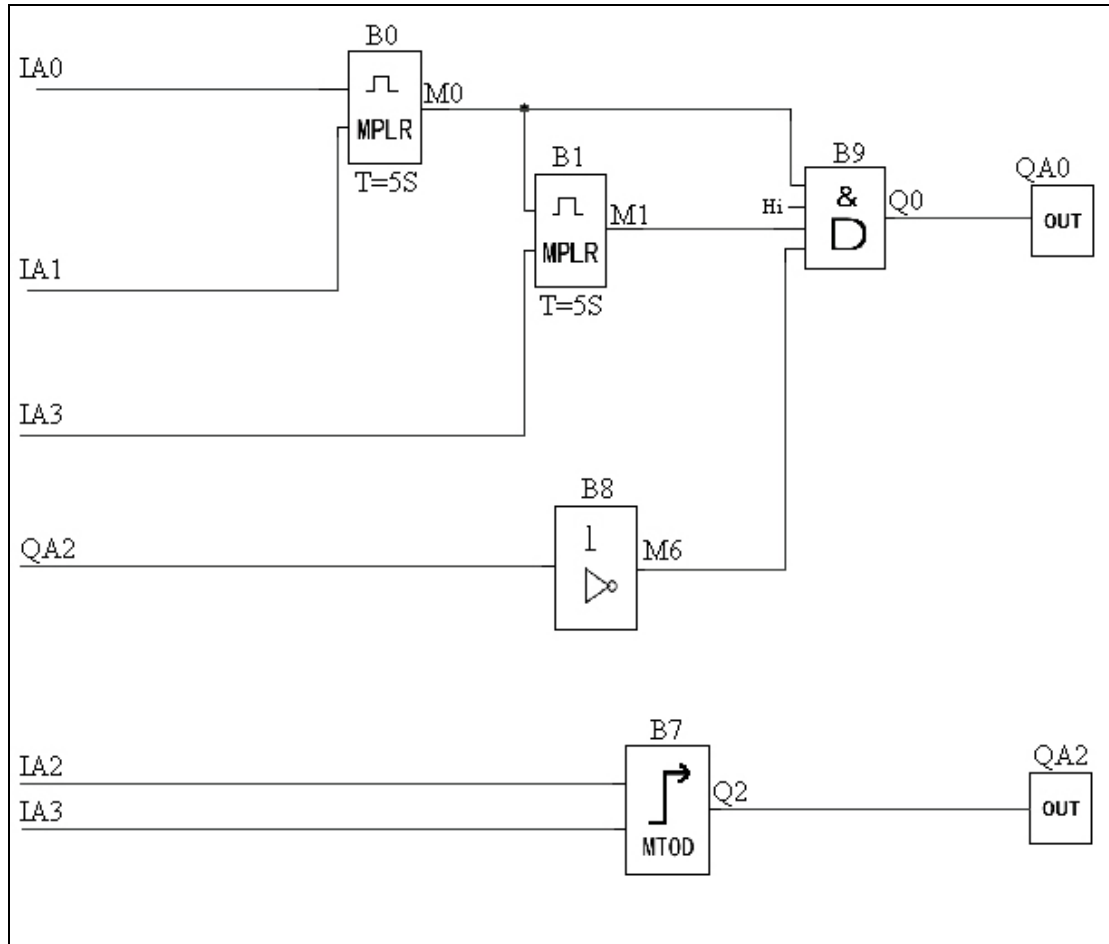
4. Advantages and Specialties

Function can be easily expanded;

Fewer components are necessary than the traditional solutions.

5. Software Circuit Diagram

Part I



Part II.....

