

## **Technological Development and Implementation of a Robotic Arm Motioned by Programmable Logic Controller**

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**Abstract :** The robot manipulator is an equipment that stands out for two reasons: Firstly because of its characteristics of movement and reprogramming, resembling the arm; secondly, by adding several areas of knowledge of science and engineering. The present work shows the development of the prototype of a robotic manipulator driven by a Programmable Logic Controller (PLC), having two degrees of freedom, which allows the movement and displacement of mechanical parts, tools, and objects in general of small size, through an electronic system. The aim is to study direct and inverse kinematics of the robotic manipulator to describe the translation and rotation between two adjacent links of the robot through the Denavit-Hartenberg parameters. Currently, due to the many resources that microcomputer systems offer us, robotics is going through a period of continuous growth that will allow, in a short time, the development of intelligent robots with the capacity to perform operations that require flexibility, speed and precision.

**Keywords :** Denavit-Hartenberg, direct and inverse kinematics, microcontrollers, robotic manipulator

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