

Design and development of sensing system for mines detector robot

Abstract

This paper presents the design and development of sensing system for mines detector robot. The objective of this project is to identify the optimum metal detection system and design and develop the sensing system of mines detection circuit for the landmine mobile robot. This sensing circuit of landmines detection system consists of pulse generation circuit, detector circuit, amplifier circuit, comparator circuit, microcontroller PIC18F4580 and the display result circuit through LCD screen. Size, type and shape of ferrous and non-ferrous object (landmines) will impinge on the output voltage signal from the search coil. The metal (iron) that was targeted in this project will be chosen based on an artificial detonator. Experimental results showed that this circuit able to sense ferrous and non-ferrous object (landmines) with satisfy sensitivity and consistent result.

Keywords — Metal detection sensing system, pulse induction, ferrous object, non-ferrous object.