AUTOMATIC CONTROLLING AND MONITORING DRAINAGE SYSTEM USING CX-PROGRAMMER AND TOUCHWIN XINJE DESIGNER

AHMAD SYAZANI BIN MUDA

FACULTY OF ELECTRICAL ENGINEERING UNIVERSITI TEKNOLOGI MARA MALAYSIA

ABSTRACT

This writing present the Intelligent Automatic Drainage Monitoring and Control system which relies on Programmable Logic Controller (PLC). This system is proposed to overcome real time problem. The concept is replace the manual work of drainage gate system by automated system. With the continued expansion of industries and global warming that cause unexpected rainstorm or flash flood, the increasing problem of drainage system must be urgently resolve. PLC is the major controlling unit and the drainage level is monitored by the sensor used. For the Intelligent Automatic Drainage System, level sensor is used to monitor the drainage water level an dc motor (24V) as the actuator for the gate system. The software that is used in this project is Touchwin Xinje Designer and OMRON CX-Programmer controlling the automatic drainage system and the touch win as the HMI. CX-Programmer and the Touchwin Xinje Designer are need to be integrated and linked with each other to develop sophisticated and user friendly system. Ladder diagram used as the language to control the whole system.

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CHAPTER 1

INTRODUCTION

1.1   Research Background

Drainage is defined as the infrastructure for drying the land from the excess and unutilized water, rainwater and waste water. The type of drainage channel can be natural or constructed channel. In an urban area, drainage channel built to control the movement of the water or surface of water due to rain, waste water, so it does not disturb the activities of certain place at certain country also the country's facilities and property in community.

Efficient drainage system should be monitored in order to maintain it proper function. In fact, not all area in the country has drainage monitoring team especially in rural area. Its lead to irregular monitoring of the drainage system and malfunction system. The irregular and malfunction of drainage system has contributed to clogging of the drainage that imply to the situation which trigger flooding or flash flood in the neighbourhood. Manual monitoring need high number of man power with high quality of skill which is lead to inefficient system. These weaknesses lead to the slow handling for drainage system.