

WiMax Control for Irrigation System (Wi-CIS)



Why we should have Wimax Control for Irrigation System (Wi-CIS)

Nowadays, demanding of water use is increased dramatically every year. Also, an effect of Global Warming, droughts expanded in many regions of Thailand. According to the above reasons, an ability of water allocation must be enhanced in efficient way. Consequently, to respond water demands, The Royal Irrigation Department decided to use Wimax Control for water allocation.



System



1. PLC is an intelligent processor. It can work automatically. It durables for any environment and it is a long-life technology.

2. Sensor is as eyes and ears of human, it works for measurement. The results are accurate, also giving real-time data.



3. Wi-Fi and Wi-max, the technologies are approached easily. It enables point-to-point to transfer data. So, the data which are sending through Wi-Max will not lost and damage. The advantages of Wi-max are it can control through the



Internet System, It can uses in broad area (around 40 km.) Depending on frequency signal and surrounded environment. Also, users can receive data wherever they are.



4. Controlling system through a homepage of its website. Also, it can measure real-time-data. In security section, website will provide log in function for users to protect data from harm.



BY



Irrigation Department

And

King Mongkut's University
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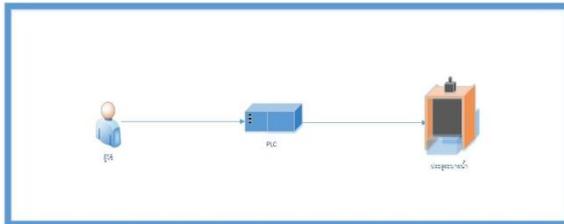
How it controls?

Enhancing abilities of the Irrigation System to work efficiency, and conserving water systematically.

1. Using Automatic system
2. Approaching Web server immediately
3. Increasing an ability of water measurement
4. Collecting data into database
5. Communicating in real time

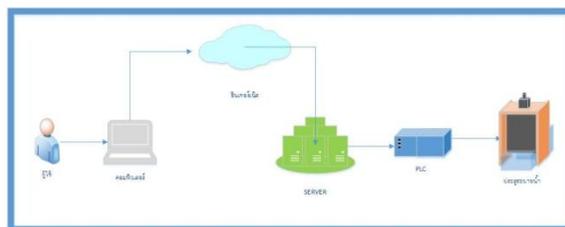
How it works

1. Working without Internet System



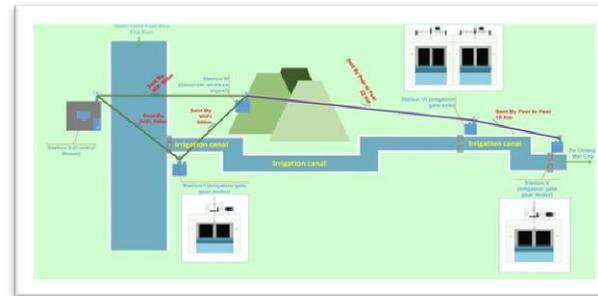
Users can approach to the system at the controller or change to automatic function. Then the information or data will send to the main server.

2. Working through Internet System



Users can use the Internet Network to control the system. An order will send through a website homepage to the server, by Internet Network, VPN, Fiber Optic Cable, and Two-way communication system.

Signal Sending



There are two ways of signal sending

1. Wimax
2. Wi-Fi

Wimax is used for sending data in wide area more than 10 km, But less than 5 km, data will Send through Wi-Fi system.

Benefits

1. Supplying enough water for agriculture
2. Quickly control
3. Approaching to system anytime
4. Collecting data for water supply planning for next year

