PLC MAT

1.V-BOX Application in Wuhan Huoshenshan Hospital

At the end of January, Wuhan Huoshenshan Hospital (temporary) was completely completed in just 10 days during the outbreak of coronavirus, showing the world the speed of China and the determination to work together to overcome the epidemic.

Huoshenshan Hospital not only has a fast construction speed, but also has internal facilities, including fresh air system, negative pressure system, sewage treatment, water and electricity network and other hospital conditions. Among them, WECON partners participated in the automatic control project of the suction / oxygen supply system of the medical center, and it is a great honor to be able to contribute our strength to Huoshenshan Hospital.

I. System Introduction

Medical center suction system: The negative pressure source is the vacuum pump unit of the central suction station. The suction system pipeline is brought to the required negative pressure value by the suction of the vacuum pump unit, and suction is generated at the terminal of each ward.

Medical center nurse station oxygen supply and suction pressure detection system: The oxygen gas source is concentrated in the central oxygen supply station, and the gas source oxygen is delivered to the terminal of each ward through the decompression device and pipeline for medical use. The detection system is used to detect whether the oxygen supply and suction pressure values in the pipeline meet the required standards.

II. Solution

LEVI2070D, LX3V-1412MR-A and LX3V-4AD. detection system: V-BOX S-4G, PI3070N, and pressure transmitter

Sucking system: use V-BOX S-4G, Oxygen supply and suction pressure

The system is used to detect 2 # ~ 15 # ward nurse stations, oxygen pressure and suction pressure each pipeline, support remote monitoring, set parameters, control vacuum pump start and stop, etc.

III. Program features

1. WECON V-Net system is connected to the oxygen suction equipment, and reads the detailed information of the equipment, including the suction pressure and oxygen pressure of the station room and various terminal use locations;

2. Support remote monitoring of PC end and mobile terminals, real-time viewing of data and adjustment of parameters;

3. Isolate the environment to prevent the spread of virus and bacterial pollution and reduce the risk of personnel;

4. Support 4G network;

5. Support remote upload and download of PLC programs, and can debug programs online.

VI. Summary

1. Both the PC and mobile terminals can implement data monitoring and device management, and support remote uploading and downloading of PLC programs, online debugging, without having to arrive at the scene, which can effectively reduce personnel flow, prevent the spread of virus and bacteria pollution, reduce work risks, improve operation, maintenance efficiency and epidemic prevention;

2. WECON V-NET supports multi-user, which can realize different levels of users such as equipment management personnel and field staff. Different levels have different accesses to monitor different equipment, and have different operation rights;

3. The data is transmitted to the cloud server remotely, and the data can also be stored locally. It has the characteristics of remote query and transmission resume to ensure the data integrity of the system.
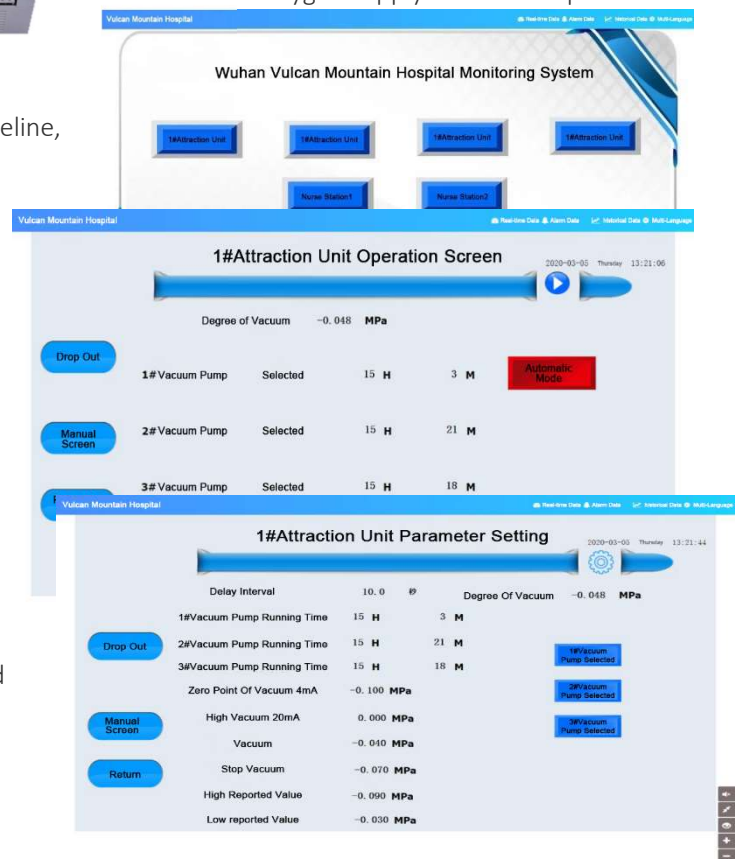
2. Wecon V-BOX application in fish pond

Ⅰ. Introduction

Fish pond culture system is mainly used for remote real-time monitoring of oxygen solubility, temperature, pH value and video information of fish pond (reservoir), control of oxygen supplement by aerator, automatic feeding, etc.

II. Requirements

Put the sensor into the water to detect the oxygen solubility, temperature and other values. Then it communicates with PLC through RS485. Finally, PLC communicates with v-box, users can view real-time information and control remotely on the computer or v-box app.

Main functions:

A. according to the oxygen solubility, control the switch to realize the effective supplement of oxygen;

B. install the remote camera to remotely monitor the fish pond through the v-box software;

C. The system has a log function, and the user can fill in the aquaculture work records, fishing and other information. It's stored in the cloud for easy verification at any time.

III. Scheme

Wecon: V-BOX S-4G，HMI:LEVI2070D，PLC:LX3V-1412MR，and LX3V-2RS485-BD.

1.Main page

Display the current oxygen solubility and water temperature of the fish pond; detect the working state of the sensor and control the start and stop of the aerator.

2.Data record.

Used to record weather, water temperature, dissolved oxygen, food, medicine and other information.

3.Setting

Set the limit value of dissolved oxygen. When it is in automatic mode, the aerator will be opened automatically when it is lower than the set value, and the aerator will be stopped when it is higher than the set value;

When it is lower than the warning limit, whether it is in the automatic mode or the manual mode, the aerator will be turned on; the forced oxygen supplement will be carried out in the noon and night time.

V.Summary

The pond culture system uses wecon v-box to realize the remote monitoring and operation of the pond. In a sense, it can reduce the artificial burden, facilitate the management and control of the fish pond, and make the aquaculture more intelligent and modern.