

Wireless Irrigation Control System

General introduction:

Automated irrigation becomes a trend with the development of smart agriculture. In order to send appropriate amount water in proper time to your farmland, we design this wireless irrigation system. It will help you Start/OFF your solenoid valves on site wirelessly. Users can control different valves on site at the control center easily. No need to go field, run here and there to control each valves manually one by one. This wireless control system will really help you save a lot of time.



System includes

- 1. Master controller at Control center--to connect Hunter/Toro irrigation controller
- 2. Pump controller at pump station--to control pump ON/OFF
- 3. Solenoid valve controller at field--each controller connects 4 valves



Wireless irrigation system

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Features

1. Base station expandable

The main controller has 8 stations. We also provide 8-station expander in order to connect 16 or 24 or 36 or 48 stations irrigation controller.

2. Valve controller support solar power supply

Field valve controller has 4 port. Each one can connect 4 valves (1 station controller or 2 station controller also available). Valve controller use solar power supply. It already has solar supply circuit on board.

3. Pump ON-OFF automatically

Our pump controller turns pump on automatically if any one of the solenoid valve is ON, switch off the pump if no valve is ON automatically.

4. Base station automatically controls valves

You can automatically switch on any solenoid valve according the scheduled irrigation controller's program.

5. Wireless connection

No need to operate pump and valve manually. Can do all at control room. No need to run here and there any more. Save time and energy.

6. Can check feedback from flow sensor (customize)

According flow sensor's digital/analog input, we can check each connected valve's condition

7. Control distance around 4km at open area, no communication fee.

Benefits

- 1. Lower labor costs
- 2. Increase accuracy (e.g. smaller more frequent sets)
- 3. Reduce water use (e.g. by night irrigation)

4. Irrigating multiple, large, and/or remote properties can be very labor intensive. In addition, it is often difficult to know exactly when (or if) valves were activated, and whether or not the desired duration or amount of water distribution was achieved. Furthermore, in instances where immediate response is required, manual valve activation may not be an option.

Parameter

1. Master-Main controller:

24V DC power supply 8 isolated inputs (24V AC or 24V DC), 1 relay output can expand by 8-station 433MHz, 1W power output Communication port: RS485

2. Master-Expander

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24V DC power supply 8 isolated inputs (24V AC or 24V DC), no output Communication port: RS485

3. Pump controller:

Power supply: 12V DC 1 digital dry input and 1 relay output contact max load AC250V/5A, DC30V/5A 433MHz, 1W power output Communication port: RS485

4. Valve controller:

12V DC power supply or solar panel power supply. Battery type: 12.6V 4 isolated pulse outputs, can control 4 solenoid valves (9-36V) separately 433MHz, 1W power output Power consumption: 40mA

How to connect master controller



Master controller



About main controller's DIP switch definition

Right side DIP DIP1-4: to set channel DIP 1 ON=1 DIP 2 ON=2 DIP 3 ON=4 DIP 4 ON=8 DIP5-7, set for how many expander 1 expander, DIP 5-7 ON OFF OFF 2 expanders, DIP 5-7 OFF ON OFF 3 expanders, DIP 5-7 ON ON OFF Left side DIP--set ID 4 expanders, DIP 5-7 OFF OFF ON DIP 1 ON=1 5 expanders, DIP 5-7 ON OFF ON DIP 2 ON=2 DIP 3 ON=4 DIP8 ON, master, SHOULD set ON DIP 4 ON=8 DIP 8 ON=128

Master controller---DIP switch

This DIP setting means ID 1, channel 5, there are 2 expanders, master module

How to connect expander



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About Expander's DIP switch definition

Expander---DIP switch setting



Expander 1: main module's ID+1, right side DIP all set OFF, Expander 2: main module's ID+2, right side DIP all set OFF ie: main module is ID 1, then please set expander 1 with ID2, expander 3 with ID3

How to connect main pump



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Pump controller DIP switch definition

Pump Controller---DIP switch



DIP 5 ON, to check whether there is input from pump

DIP 5 OFF, no need to check input from pump

DIP 6-8, set OFF for your application

How to connect valve controller

Field module--valve controller



Conclusion:

- 1. Please make sure all controllers in the same system setting with the same channel
- 2. One master to more slaves, please set different ID for slaves(valve controller)
- 3. Master side all COM- ports connect with irrigation controller's C port