Automation
IRRIGATION & FERTIGATION
Data-driven farm management

Farmer Profile

- Less than 1.5 Ha – 80%
- 1.5 to 2.5 Ha – 10%
- 2.5 to 4 Ha – 5%
- More than 4 Ha – 5%

- Corporate Farms- More Than 10 Ha

Automation Steps

Pump Automation → **1st Primary Step By Farmer**

Irrigation — Time Based · Volumetric Based · Sensor Based

System Safety — Auto-Bypass Valve & System Protection

Fertigation — Fertigation- Spread, Proportional

Filter Automation — Screen, Disc Filters

Nutrigation — Fertigation- Spread, Proportional · Nutrient Ec & pH Optimization

Agronomical — Crop Advisory, Irrigation-Fertigation Programs · Satellite Images

Remote Access — Remote View · Data, Reports

Wired

Wired Automation Irrigation System

- IRC1
- MC1
- MS1
- VC2, VC4, VC8, VC12
- Sensors
- Voltage Stabilizer & Lightening Protector

Wired Automation Irrigation & Fertigation System

- IRC2
- WG + Signal Transmitter
- Wireless Equip + MC1
- MS1
- Wireless Equip + VC2, VC4, VC8, VC12
- Wireless Equip + Sensors
- Weather Station
- Ferti Kit (For Automatic Fertigation) with or without EC & pH Value
- Voltage Stabilizer & Lightening Protector
- Backwash & Disc Filter Cleaning

Wireless

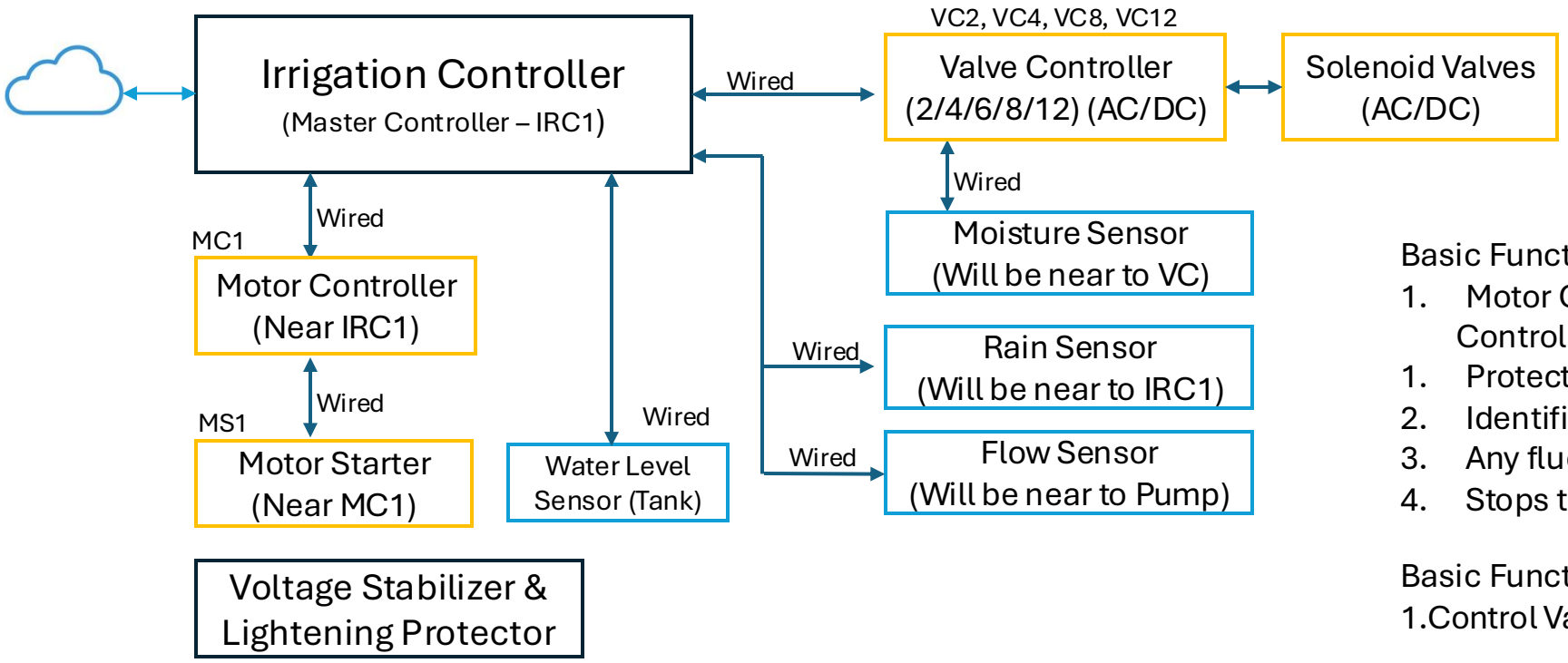
Wireless Automation Irrigation System

- IRC3
- WG + Signal Transmitter
- Wireless Equip + MC1
- MS1
- Wireless Equip + VC2, VC4, VC8, VC12
- Wireless Equip + Sensors
- Voltage Stabilizer & Lightening Protector

Wireless Automation Irrigation & Fertigation System

- IRC4
- WG + Signal Transmitter
- Wireless Equip + MC1
- MS1
- Wireless Equip + VC2, VC4, VC8, VC12
- Wireless Equip + Sensors
- Weather Station
- Ferti Kit (For Automatic Fertigation) with or without EC & pH Value
- Voltage Stabilizer & Lightening Protector
- Backwash & Disc Filter Cleaning

Basic Planned Circuit **Wired Automation Irrigation System**



Basic Functions/Features of Irrigation Controller
(Master Controller - IRC1).

1. Connectivity to Cloud by GSM/WIFI/LoRa
2. Mobile to LoRa(Additional WAN) and Connects to Irrigation Controller LoRa
3. Power Supply to Valve Controller & Motor Controller.
4. Mobile Signal/WIFI – Internet Failure Signal Lost indication.
5. Communication to Valve/Motor Controller based on the farmers planned input.(Type - Time Based/Volumetric Based/Sensor Based)

Basic Functions/features of Motor Controller.

1. Motor Controller (Gets input from Master Controller and operates the motor).
1. Protects motor from dry run.
2. Identifies the Phase failure and stop the motor.
3. Any fluctuation in voltage stops the motor.
4. Stops the motor from over loading(More amps)

Basic Functions/features of Valve Controller.

1.Control Valves based on the Farmers Inputs

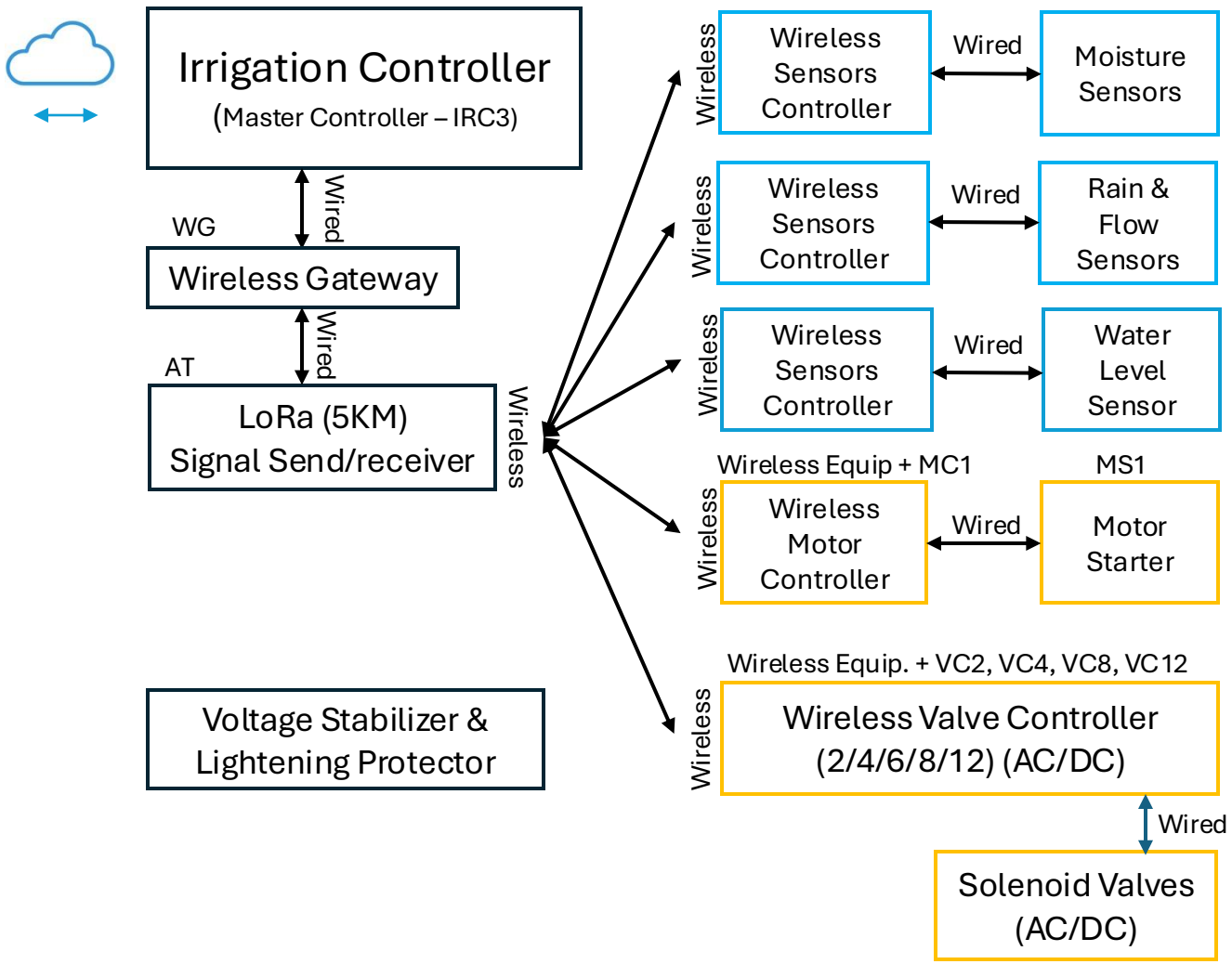
Sensors.

1. Rain Sensor, Flow Sensor, Moisture Sensor,

Mobile Connectivity Via APP

1. Smart Scheduling of Motor/Valves ON/OFF
2. Call Option for Motor ON/OFF (GSM)
3. Add Multiple Users (Up to 10 No's, Only 5 Can control others can only view)
4. Motor/Valve Log.
5. GSM/WIFI Signal Lost – Intimation in mobile.

Basic Planned Circuit **Wireless Automation Irrigation System**



Basic Functions/Features of Irrigation Controller
(Master Controller - IRC2).

1. Connectivity to cloud by GSM/WIFI/LoRa.
2. Mobile to LoRa(Additional WAN) and Connects to Irrigation Controller LoRa
3. Operating Power : Solar & Battery (at least 72 hrs.) Operated.
4. Mobile Signal/WIFI – Internet Failure Signal Lost indication.
5. Communication to Valve/Motor/Sensor Controller based on the farmers planned input. (Type - Time Based/Volumetric Based/Sensor Based)

Basic Functions/features of Valve Controller.

1. Controls Valves based on the Farmers Inputs

Sensors.

1. Rain Sensor, Flow Sensor, Moisture Sensor,

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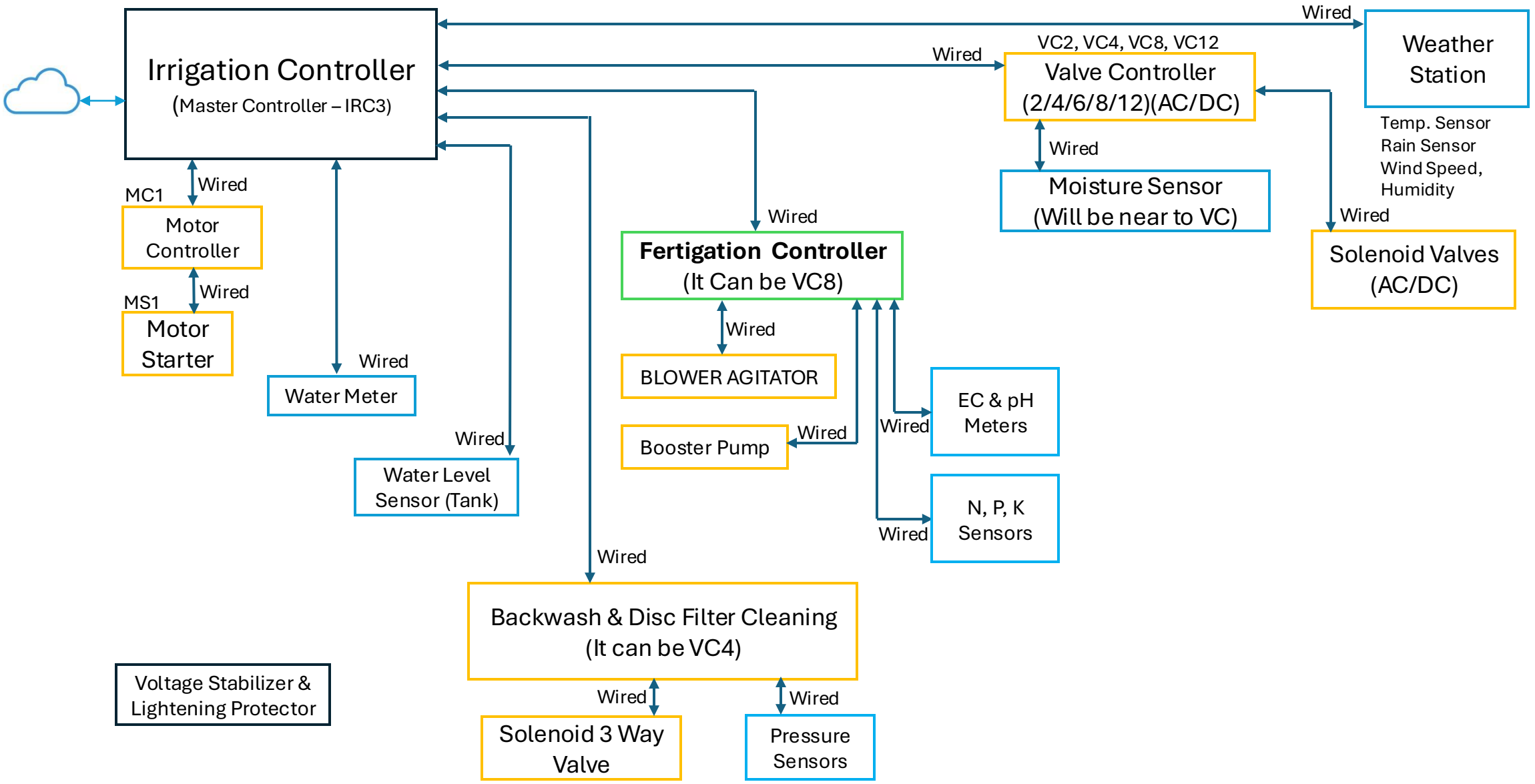
Basic Planned Circuit **Wired Automation Irrigation & Fertigation System**



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Fertigation Controller (For Automatic Fertigation)
with or without EC & pH Value

1. Controls the 4 Valves (Fertilizer from N Tank, P Tank & K Tank, One Spare Connection)
2. Controls the Fertilizer based on EC & pH Values.
3. Proportion we have access form app/software for operating valves.
4. Controls the dosing pump
5. Controls the On/Off Valves

Basic Functions/features of Valve Controller.

1. Control Valves based on the Farmers Inputs

Sensors.
Weather Station, Flow Sensor, Moisture Sensor, NPK Sensor.

Mobile Connectivity Via APP

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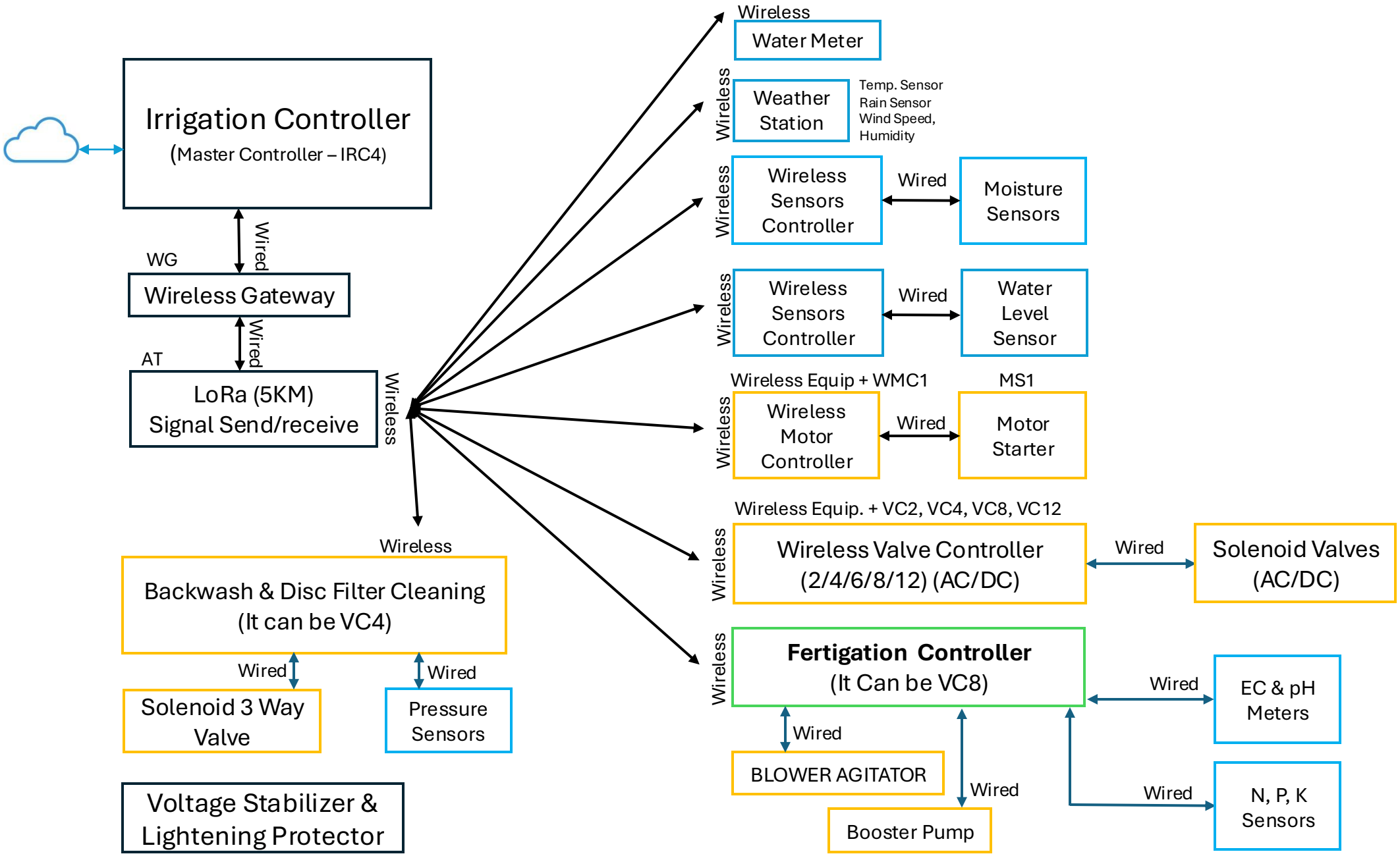
2. Call Option for Motor ON/OFF (GSM)
3. Add Multiple Users (Up to 10 No's, Only 5 Can control others can only view)
4. Motor/Valve Log.
5. GSM/WIFI Signal Lost – Intimation in mobile.

Backwash & Disc Filter Cleaning

1. Operated 3 Way Valve based on the two Pressure Sensors.

Basic Planned Circuit **Wireless Automation Irrigation & Fertigation System**



Basic Planned Circuit **Wireless Automation Irrigation & Fertigation System**

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5. Controls the On/Off Valves

Basic Functions/features of Valve Controller.

1. Controls Valves based on the Farmers Inputs

Weather Station & Sensors.
Rain Sensor, Flow Sensor, Moisture Sensor, Humidity, Temperature, Wind Speed.

Mobile Connectivity Via APP

1. Smart Scheduling of Motor/Valves ON/OFF
2. Call Option (GSM)
3. Add Multiple Users (Up to 10 No’s, Only 5 Can control others can only view)
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Backwash & Disc Filter Cleaning

1. Operated 3 Way Valve based on the two Pressure Sensors.

Thank You.