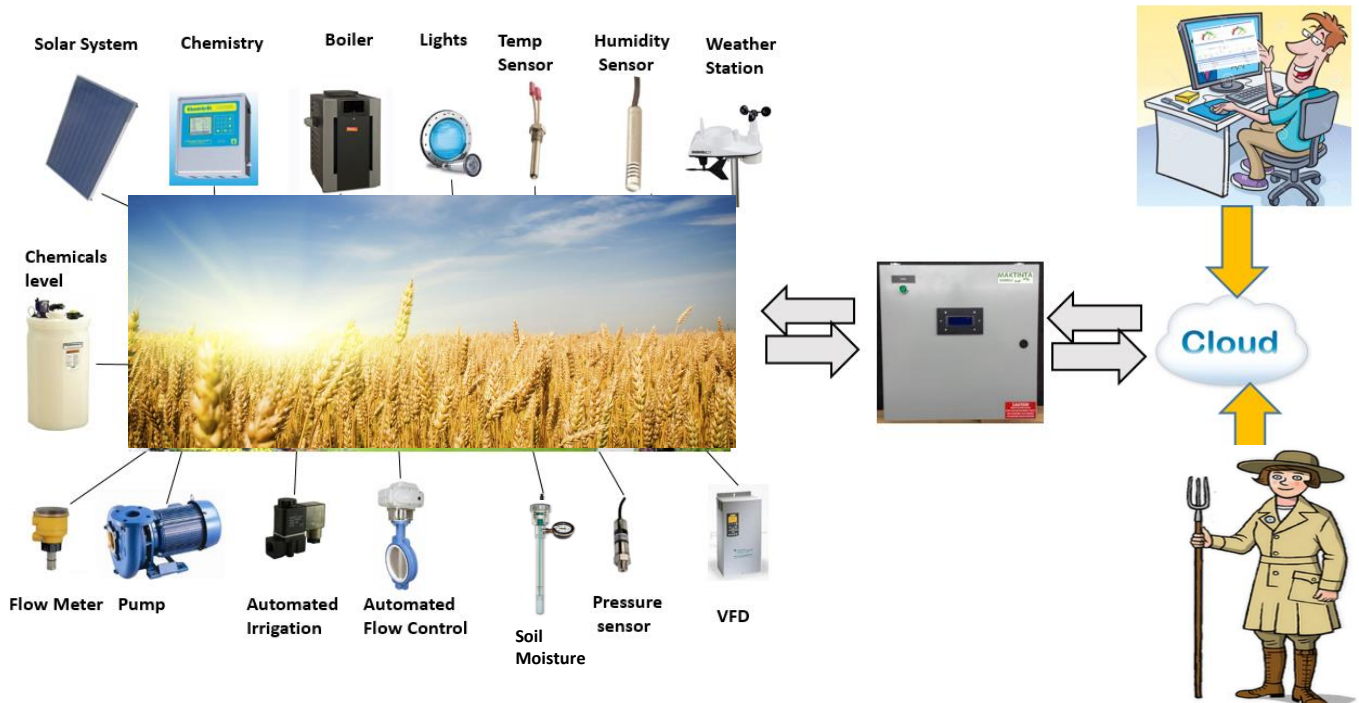


AgroTEK Agriculture Controller & Management System

The AgroTEK is a powerful cloud based control and monitoring solution for farmers / greenhouse growers and agricultural organizations. This high performance controller enables and simplifies monitoring and control of soil moisture, water supply, irrigation scheduling, field valves, water pumps and can accommodate a plethora of sensors. Each controller is capable of controlling 8 different fields, and can be expanded as needed



Control Technology

The AgroTEK is an industrial controller and as such can control a wide variety of devices.

Standard devices controlled by the AgroTEK

- **Pumps** up to 1,000 HP via VFD
- **VFD** proportional control as a function of pressure / flow / set schedule
- **Actuated Valves** (irrigation / 3 way / solenoid)
- **Boilers** On /Off and / or proportional control as a function of Delta T
- **Chillers** proportional control as a function of demand
- **Lights**
- **Vents**
- **Ambient temperature** multipole zones thermostats

Supported Sensors

The AgroTEK is capable of supporting any sensor with standard output (4-20mA/ resist / 0-30V/ Pulse)

Standard sensors supported by the AgroTEK:

- Temperature
- Flow
- Fluid Levels
- Pressure
- PH
- Conductivity
- Soil Moisture
- Wind speed
- Solar Irradiation
- Ampere for energy generation / consumption
- CO2
- Light sensors

Control Remotely

Control irrigation programs, review daily logs and schedule for multiple fields / sites from any web enabled device.

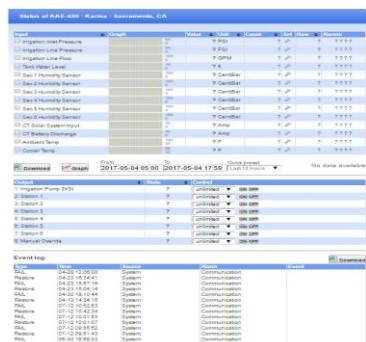
- Set / adjust ground humidity levels
- Set / adjust greenhouse temperature
- Set lights on/ off
- Control up to 8 irrigation stations / fields
- Set / manage multiple irrigation programs
- Set / manage multiple sites from one interface
- Set daily, weekly, monthly schedules to save energy to meet operation changing needs

Monitoring Remotely

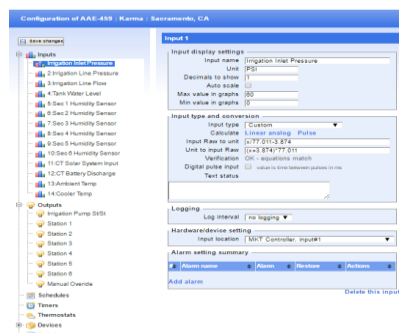
Continuous monitoring via internet (GSM/ LAN) using a virtual control dashboard.

Real time web data stream to your smart device
Monitor moisture sensors, temp, pump activity, water consumption, water PH, TDS levels as well as chemical levels in farmigation tanks, weather conditions, Temperatures, CO2 levels, pressure, Flow rates in all important loops as well as power consumption and energy used in operating the facility

Control on the fly from anywhere



Station	Field	Program	Status	Flow Rate	Pressure	Temp	Humidity	PH	TDS
1	Field 1	Program 1	Running	1.2 GPM	100 PSI	75°F	65%	7.2	150 PPM
2	Field 2	Program 2	Stopped	0.0 GPM	0 PSI	75°F	65%	7.2	150 PPM
3	Field 3	Program 3	Running	1.5 GPM	110 PSI	75°F	65%	7.2	150 PPM
4	Field 4	Program 4	Stopped	0.0 GPM	0 PSI	75°F	65%	7.2	150 PPM
5	Field 5	Program 5	Running	1.8 GPM	120 PSI	75°F	65%	7.2	150 PPM
6	Field 6	Program 6	Stopped	0.0 GPM	0 PSI	75°F	65%	7.2	150 PPM
7	Field 7	Program 7	Running	2.0 GPM	130 PSI	75°F	65%	7.2	150 PPM
8	Field 8	Program 8	Stopped	0.0 GPM	0 PSI	75°F	65%	7.2	150 PPM



Configuration of AAE-800 - Kama - Sacramento, CA

Inputs

- 1. Irrigation Line Pressure
- 2. Irrigation Line Flow
- 3. Tank Water Level
- 4. Soil 1 Humidity Sensor
- 5. Soil 2 Humidity Sensor
- 6. Soil 3 Humidity Sensor
- 7. Soil 4 Humidity Sensor
- 8. Soil 5 Humidity Sensor
- 9. CT Solar System Input
- 10. CT Battery Charge
- 11. Ambient Temp
- 12. Cooler Temp

Outputs

- 1. Irrigation Pump Start
- 2. Station 1
- 3. Station 2
- 4. Station 3
- 5. Station 4
- 6. Station 5
- 7. Station 6
- 8. Manual Controls

Input 1 settings

Input name: Irrigation Line Pressure
Unit: PSI
Decimals to show: 1
Auto scale: ☐
Max value to graph: 100
Min value to graph: 0

Input type and conversion

Input type: Custom
Calculate: Linear scaling Pulse
Unit to input raw: (XX) 0123 456
Verification: (XX) 0123 456
Digital pulse input: ☐ value to drive between pulses in ms
Test status

Logging

Log interval: no logging

Hardware reference setting

Input location: SMT Controller Input

Alarm setting summary

1. Alarm name: Alarm 1
2. Alarm name: Alarm 2
3. Alarm name: Alarm 3
4. Alarm name: Alarm 4
5. Alarm name: Alarm 5
6. Alarm name: Alarm 6
7. Alarm name: Alarm 7
8. Alarm name: Alarm 8
9. Alarm name: Alarm 9
10. Alarm name: Alarm 10
11. Alarm name: Alarm 11
12. Alarm name: Alarm 12

Add alarm

The AgroTEK allows for easy control of any number of sites / fields from any smart device via easy to use web interface. Turn pumps on / off change irrigation schedules, moisture levels, temperature, light intensity, flow rates, fluid levels in storage tanks, and pump speeds . Set sequences, alarms notifications, system logic that can be modified to meet any need or application.

Set Authorization levels for employees



Account and user settings

Account | **Personal** | **Users** | **Reports** | **History**

Account

Username: jay@agrotek.com
Email: jay@agrotek.com
Phone: 408-432-9900
Address: 110426 Campbell, CA 95011

Settings for selected user

Login

Username: [text]
Password: [text] (leave blank unless you want to change password)
Confirm password: [text]
Name: [text]
Address: [text]
Address line 2: [text]
City: [text]
State: [text]
Postcode: [text]
Country: [text]
Daytime phone: [text]
Nighttime phone: [text]
Mobile phone: [text]
Email address: [text]

Log in

☐ User can edit self (name/password/address/phone etc)
☐ Edit controllers
☐ Edit user
☐ Remote control
☐ Release controllers
☐ Manage account

☐ Save Changes

Set authorization levels to guest, employees, limited users and managers.

Authorization levels and be specifically defined from guest level who can only see the data to administrator level that can control, change schedules, and any other parameter controlled by the system.

Add / delete users change passwords and access levels in seconds from your own device.

Online Monitoring dashboard



Real time dashboard keeps the operator informed and in control over operations

Automated Periodic Reports



Automated periodic reports via email keeps all parties informed as for energy use and general conditions

Easy to use Analytical tools



Quick analytical tool allows an easy trouble shooting and verification of conditions

Easy Scheduling Module

Schedule display settings

Schedule name:

Interval 1

Valid weekdays: ☒ Mo ☒ Tu ☒ We ☒ Th ☒ Fr ☐ Sa ☐ Su

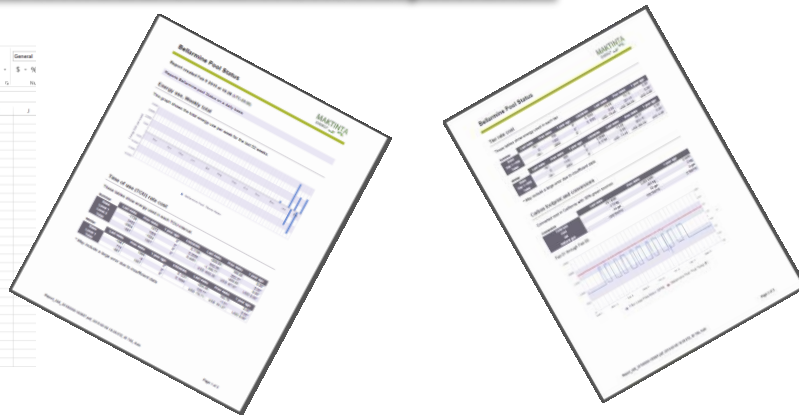
Start time:

Stop time:

Easy scheduling module allows for pump speeds, light, humidity and boiler scheduling to meet changing needs

Download data from Anywhere

The spreadsheet displays data logs for various parameters, including '1. Filter Loop GPM', '2. Boiler Loop Flow', and '3. Boiler Loop Flow'. It includes columns for 'Date', 'Time', 'Value', 'Min', and 'Max'.



Data-logs parameters in 1 min to one hour intervals. Data is kept on the cloud for future analysis or confirmation for health department inspection or product warranty verification

Specifications

Specifications

Physical	20" x 20" x 9"
Enclosure	NEMA4 rated metal
Power requirement	120VAC/ 240VAC 6 Amp 60 or 50 Hz
Operating Ambient temp:	32-120F
Operating Humidity range:	0 to 95% RH (non-condensing)
Operating environment	Indoor use
20 Inputs	Analog – 0-30V, 0-30mA, pulse, resistance Digital – dry contact Temp – 10K, 100K, RTD 6 MicroLAN temp sensors
Power output	24 VDC 6 Amp
20 Outputs	Two C form relays - 50V/ 2A Six C form relays - 240V/ 10A 8 Dry contacts - 230VAC 3 Amp 4 Analog 4-20mA or 0-10V
Network Capacity :	Chanel 1 and two ModBus
Network	Standard Ethernet TP 10/100 RJ45, WiFi or GSM/3G
Modbus	RS485 @19200bps, Modbus RTU master
Display	6 lines LCD display
Data Logging	Individual log interval inputs 5sec
Input triggers	Up to 4 alarms / input with up to 4 actions (send message, control output)
Schedule	Up to 20 schedules
Timers	Up to 20 timers hourly, daily or monthly
Logic	Virtually unlimited
Weight	50 lbs
Certification	UL



Controls	Control multiple circuits, pumps, VFD's, Servo valves, flow, boilers, solar system, valves, lights using analog or digital output
Monitor & Log	Pumps speed, pressure, flow, boiler operation & BTU metering , water consumption, ORP, PH, TDS, chemical tanks fluid level, gas & electric metering and any device with AO or DO
Automation	VFD Pump control, Boilers control with lead/lag option, and motorized valves
Applications	For commercial farming applications, greenhouses, sports fields, parks and arenas