

AquaLogic 500 Controller

The AquaLogic 500 controller is a light to full size commercial irrigation controller easy upgradable via licenses.



Aqualogic 500

The new AquaLogic 500 Smart Irrigation 2-wire controller from Crysberg represents all what is needed and expected of a modern state-of-the-art irrigation solution. Regardless of the model and the number of stations you have selected the AquaLogic 500 controller is fully equipped a series diagnostic tools and versatile features. This includes Flow Management, Alarms, Reports, and access to international weather stations. Features that will guarantee you a precise irrigation.

Controller Software

Water management/hydraulics

- Up to 20 individual Mainlines with optional flow meter.
- Multiple point of connection for feeding a Mainline including priority.
- Up to 100 pipe sections.
- Automatic individual flow management for each Mainline to minimize water window.
- Station and group priorities for hydraulic override.
- Supervision of flow deviation and leak flow per mainline.
- Learn flow independently for each mainline.
- Automatic verify flow.
- Programable verify flow.

Irrigation methods

- MAD based and Timer based execution.
- Groups of stations.
- 50 programs each with up to 500 steps which defines a run of a station, a group of stations or all by MAD, time (HH:MM:SS), or amount (mm).
- Programs run in parallel.
- A total of 100 start times.
- 365 days calendar, odd/even and specific days per week.
- Exclusion days/times.
- Water window with hard stop selectable per start time.
- Start time repeat for misting applications.
- Program level cycle & soak for quick setup without MAD data.
- 30 soil type definition for supporting MAD irrigation or station specific cycle & soak in non-MAD irrigation.
- 30 plant types to support MAD irrigation.
- User selectable execution strategy as sequential or auto for the flow management.

- Correction of program run by water budget (1-300%) or by ET reference data.
- 5 sets of ET reference with optional remote ET from Davis, CIMIS, COAGMET or tomorrow.io.
- Remote ET updated hourly.
- MAD data recalculated every second.
- Over spraying programs for MAD based station without affecting the water balance (selectable).
- Rain delay in minutes.
- Rain correction of MAD based stations.
- Non-irrigation stations.
- Simulation of program run's flow and water usage within seconds in months advance.

Operation

- Fully automated program execution.
- Manual program and station run via Dashboard.
- Diagnostic overview via Dashboard.
- Pause mode for easy pause, fix issues and resume.

Logic engine

- User programmable logic engine with 230 blocks and 50 variables.
- Possible to operate outputs, enable/disable programs, stations, flow rules etc. on conditions like sensor input, water engine state, program state etc.

Typically used for:

1. Adjust water budget based on soil moisture.
2. Activate irrigation program via a button in the field.
3. Fertilizer injection.
4. Filter flush.
5. Fill a water tank.



User Interface

- Built-in WEB server which supports local operation via the Ethernet.
- Responsive WEB which adapts to actual screen size whether that is a PC browser, tablet, or mobile phone.
- Local user administration with daily operator and manager.
- Individual usernames with password protection and user rights.
- User selectable languages.

Remote server

- Remote service via servers in Europe, America, and Asia.
- Servers provide WEB access to the controller with the same user rights as local.
- Servers provide admin rights for customers to organize large installations in sub-organizations with assigned operators.
- Servers provide a broad selection of log data to customize reports.
- Servers provide alarm email setup on organization and/or controller level with a broad selection of alarm to subscribe for.

3rd party integration

- The controller is accessible via a Rest/JSON API on both 2-wire command level as well as the controller level.
- The access is either local non-encrypted on RS232/ Ethernet or encrypted via remote server using Bearer Token Authentication/Auto generate API token.
- Servers provide Rest/JSON API for log data and user administration via Bearer Token Authentication/ Auto generate API token.
- Create your own user interface or take advantage of Crysberg's.
- Access Building Management Systems and other smart integration platforms.

Diagnostic features

- Automatic 2-wire shutdown on overload.
- Email alarms on errors.
- Short finding mode.
- Leakage finding mode.
- Built-in 2-wire leakage and wire capacitance measurements.
- Automatic search for decoders with low 2-wire voltage.
- Automatic search for decoders with leaking coils.

Decoders & installation

2-wire installation

With 250 decoders, 10 active & 2 flow sensors in a star:

- 1. 1.5mm2: 3500m
- 2. 2.0mm2: 4500m
- 3. 2.5mm2: 5700m

- Supports star and loop installation.

- Grounding every 150m and at the end of 2-wire with LSP decoder. Resistance < 50Ω.
- Grounding of controller with resistance < 10Ω.
- Built-in corrosion protection.

Output decoders

2-Way communication:

- Voltage @ decoder
- Line resistance to decoder.
- 2-wire leakage.
- Coil leakage.
- Coil resistance & inductance.
- Coil status and operation.
- Supports a broad selection of 24VAC solenoids
- Auto discover.
- Automatic assignment of standard drive parameters for driving solenoids.
- Autoswitch function to optimize solenoid drive for increased performance.
- Nominal/minimum 2-wire voltage: 42V/21V.
- Standby current: 0.3mA.

Input decoders

Electrical configurable for:

1. Digital on/off.
2. Digital pulses 0-1000 Hz.
3. Analog current 4-20mA.
4. Analog voltage 0-10V.
5. Coil resistance & inductance.
6. Coil status and operation.

- Auto discover.
- Digital pulse measurements in frequency, pulse counting, time between pulses.
- Nominal/minimum 2-wire voltage: 42V/21V.
- Standby/maximum current: 0.6/12mA.
- Advanced expression definition.
- Power management.

SDI-12 data decoders

- Auto discover.
- Advanced configuration tool for SDI-12 sensor integration.
- Advanced data trigger setup.
- Power management.
- Nominal/minimum 2-wire voltage: 42V/21V.
- Standby/maximum current: 0.1/90mA.
- Advanced expression definition.

Environment

- Operating temperature 0 to 600C.
- Storage temperature -20 to 700C.
- Humidity 95% non-condensing.

Electrical

- 100-240VAC, 1.8A, 50/60Hz switch mode power supply.
- 65W.

Certificates

- CE.