

ADVANCED UNIVERSAL INTERLOCK

PRODUCT SPECIFICATION

ADVANCED UNIVERSAL INTERLOCK





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Application

The Advanced Universal Interlock (AUI) shall be used in commercial pools - hotels, apartments, YMCAs, schools, universities, and water parks.

The AUI shall act as a safety interlock to cut off chlorine and acid supply in case of events triggered by configured inputs (for example, flow switch triggered due to no flow of water).

The AUI shall have provision to trigger a remotely located alert device such as a horn or siren.

The AUI shall log periodic status, all alerts and all challenge tests with their results.

ENVIRONMENT

Operating Temperatures/humidity

Temperature: 0C to 40C

Relative Humidity - 85%

Storage Temperature/humidity

Temperature: -35C to 40C

Relative Humidity - 85%

Weather (Ice/snow/rain/UV/heat)

The AUI shall be used in indoor and outdoor applications.

Drop Specification

Standard 6ft

Water Resistance

Ingress Protection degree IP 65.

Housing and field wire fitting components shall be capable of complying with NEMA 4X / IP 65 ratings.

FUNCTIONAL

Performance

Status Updates

The AUI shall log updates, alerts and challenge test process data to a removable USB.

The AUI shall log updates to local memory every 10 minutes as per UTC time zone.

AUI shall log 131072 logs for 8Mb Memory

AUI Shall log 65536 logs for 4 Mb Memory

Data logs shall have the status of all inputs.

The AUI shall log complete data from internal memory to removable USB in new .csv file when initiated.

CSV file shall have following columns in the data log. Data shall be in plain English.

Input 1 Status	Input 2 Status	Input 3 Status	Input 1 Enabled	Input 2 Enabled	Input 3 Enabled	Test Active Status	Test Active Status	TIME(UTC)	DATE
OPEN/CLOSED			ACTIVE/INACTIVE			CURRENT/ FAILED/ EXPIRED	ACTIVE/ INACTIVE	HH:MM:SS	MM:DD:YYYY

When the output lockout occurs, the alarm output shall be enabled and both the 120 VAC outputs and the dry-contacts shall be disabled.

Features

Power Inputs:

120 VAC, 15 Amps, 60 Hz.

One primary fuse for 20 Amps (125% product rating) (see 7.2 Output Power Fuse Configuration).

Power cable shall be 6ft standard with 20 Amps rating

Configuration Settings:

AUI shall have provision to configure different settings.

Setting 1 shall enable / disable Contact Closure Input 1.

Setting 2 shall enable / disable Contact Closure Input 2.

Setting 3 shall enable / disable Contact Closure Input 3.

Input LED's shall be turned off for disabled inputs

Any unused CC input must be jumpered to disable it

Signal Inputs:

There shall be three independent inputs with dry contact closures.

All wired connections shall be inside the unit on removable terminal blocks.

Wires are to run through non-metallic liquid tight strain relief connectors on the bottom of the enclosure.

Power Outputs:

There shall be 3 outputs each rated 120 VAC, 15 Amps, 60 Hz. The total current rating for all of the power outputs is 15 Amps.

Inrush current shall not exceed 15 Amps.

There shall be 3 independent dry contact outputs rated for at least 1 Amp.

All wired connections shall be inside the unit on removable terminal blocks except for Earth and Ground Bond.

Wires are to run through non-metallic liquid tight strain relief connectors on the bottom of the enclosure.

All (1-3) 120VAC powered outputs and dry CC outputs shall open if any enabled CC input is in the open state.

All (1-3) 120VAC powered outputs shall be powered and dry CC outputs shall be closed if all enabled CC inputs are in the closed state.

There shall be a 30 Day cycle for challenge test to verify the correct operation of the AUI. Under normal operation, "Challenge Test LED" shall be off.

When the test expires after 30 Days, "Challenge Test LED" shall blink in YELLOW under normal working operation of the AUI indicating the technician or user to start the test.

Once the technician or user presses "Challenge Test Begin" button and shuts off the flow in the pool, the "Challenge Test LED" shall be solid YELLOW and the input LEDs shall turn RED for each input and the AUI shall trigger external alert.

After starting the test, if the technician does not shut off water flow and does not press the "Challenge Test Confirm" button within 5-10 minutes, the "Challenge Test LED" shall continue blinking YELLOW indicating the need for the challenge test and the AUI shall log the failure of the test.

If the technician does not shut off the water flow of all the enabled inputs and press the 'Challenge Test Confirm' button, AUI shall log failure of the test and Challenge Test Yellow LED shall start blinking

After starting the test, if the technician has shut off the water flow and has verified all the LED's going RED and triggering of alarm, technician shall press "Challenge Test Confirm" upon which "Challenge Test LED" shall be completely off. The AUI shall then log a successful test occurred.

Technician shall have the capability to self-initiate the test by pressing and holding "Challenge Test Begin" button for 5 seconds on which "Challenge Test LED" shall be solid YELLOW.

Self-initiating the 30 Day challenge test will reset the 30 Day counter.

Power cycling of the device shall retain Challenge Test Status

30- day counter shall continue counting days in case the device is powered off

In case of resetting the 30 Day counter, 30 Day alarm will trigger at the same time after 30 Days when it was reset.

Technician shall have the capability to copy the data logs from internal memory of AUI to removable USB. Once the technician inserts USB into USB port, USB shall be solid green indicating the detection of USB. When technician presses the USB Write button, AUI shall copy all data logs from internal memory to USB while blinking USB LED in Green. Once the USB Write process is completed, USB LED shall be solid green indicating the safe removal of USB. USB LED shall be solid RED if the USB Write is failed and completely off when there is no USB detected.

Technician shall NOT have the capability to copy the data logs from internal memory to USB during an active Challenge Test.

Technician shall have the capability to manually fail the test during the challenge test mode by pressing and holding down Challenge Test Begin and Challenge Test Confirm button for 5 seconds which shall log the failure of test and AUI shall go back to Challenge Test Pending state while blinking "Challenge Test LED" in Yellow.

User Interface

Provisioning Buttons for 30 Day Challenge Test

The AUI shall provide a button "Challenge Test Begin" to begin Challenge Test.

The AUI shall provide another button "Challenge Test Confirm" to finish the test and resume normal operation.

The buttons shall be on the front of enclosure and will be accessed from outside.

There shall be 3 bi-color indicator LED for each Contact Closure input.

The LED shall be solid GREEN under normal operation and solid RED in case of problem.

USB Write Button and bi-color indicator USB LED

The AUI shall provide a USB write button to begin writing data on USB.

The LED shall blink in GREEN when the writing is in progress.

The LED shall be solid GREEN when the write is complete.

The LED shall be solid RED when write has failed.

The LED shall be completely off when there is no USB detected.

Challenge Test LED

There shall be a YELLOW indicator LED for Challenge Test.

RTC Low Battery

The AUI shall use USB bi-color LED to indicate RTC low battery warning

When the RTC battery is low, USB LED shall blink RED.

During low RTC battery, if USB is inserted, USB LED functionality will dominate the behavior of USB LED.

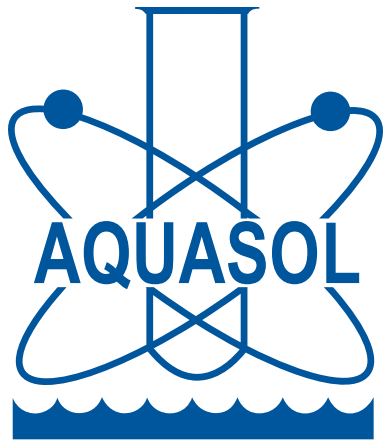
During low RTC battery, if USB is inserted, USB LED shall turn from blinking RED to solid GREEN.

If USB is taken out, USB LED shall go back from solid green to blinking RED indicating RTC low battery.

AESTHETIC

Size

The AUI enclosure shall have the approximate dimensions of 9" x 7" x 4".



**1707 Townhurst Drive
Houston, Texas 77043**

**Phone: 713-683-6406
Toll Free: 800-444-0675**

**Fax: 713-683-6490
Web: www.aquasol.com
Email: sales@aquasol.com**

**8:00 a.m. – 5:00 p.m.
Monday – Friday**