

Spray Irrigation Control Panel · Smart Timer + UV

120 VAC · Single Phase · Dual Feed | Time Dose · SHT-13/2 Wi-Fi Timer | UL 508A Listed

ENGINEERED & MANUFACTURED FOR AKHA MANUFACTURING, LLC · HYDRO-ACTION® SYSTEMS

PRODUCT OVERVIEW

Engineered and manufactured by Legacy Controls for AKHA Manufacturing, LLC, the CP-001-3-0006 is a UL 508A Listed control panel for Hydro-Action® aerobic treatment units with spray irrigation dispersal and UV disinfection. It powers and supervises the aeration compressor, monitors the UV lamp through a PRI-51 current relay, and drives a time-dosed spray/dose pump scheduled by an Elko SHT-13/2 Wi-Fi smart timer — with failsafe pump lockout on air loss or UV fault. High water is alarm-only. A dedicated control circuit keeps the alarm live during main power loss.

KEY FEATURES

- Elko SHT-13/2 Wi-Fi smart timer — daily, weekly, astronomical & cycle programs · phone programming, no app · hour meter
- Integrated UV disinfection with automatic lamp failure / end-of-life detection
- Failsafe spray/dose pump lockout on air loss or UV fault
- Continuous compressor supervision via Tecmark air pressure switch
- Dedicated control circuit — alarm stays live if the main breaker trips
- Pump level float blocks short doses · high water float alarms only
- No panel overload devices — motor-integral overload protection
- NEMA 4X polycarbonate · UL 508A Listed · File E547664

PANEL IDENTIFICATION

MODEL

CP-001-3-0006

UL FILE NUMBER

E547664

DOCUMENTATION

Manual v3.0 · LD v1.4 · CD v1.3

MANUFACTURED FOR

AKHA Manufacturing, LLC

SYSTEM PLATFORM

Hydro-Action®

KEY COMPONENTS

SHT-13/2 · PRI-51 · UV Ballast

! READ FIRST — CONTROL CIRCUIT

TWO separate 120 V feeds: main power (terminal 1) plus a dedicated control circuit (terminal 2) that **remains energized when the main breaker is OFF** — disconnect BOTH and verify with a tester before opening. Neutrals from both feeds must land on the same neutral bus in the feeder panel.

TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Model / Compliance	CP-001-3-0006 · UL 508A Listed · File E547664
Supply	120 VAC, 60 Hz, single phase — dual feeds: main power (terminal 1) + dedicated control circuit (terminal 2)
Total FLA / SCCR	25 A · SCCR 5 kA
Spray / Dose Pump	120 V, 1 HP (20 FLA) — largest motor · integral motor overload required
Compressor (Air Pump)	120 V, ¼ HP (5.0 FLA) · integral motor overload required
Panel Branch Protection	CB1 20 A pump · CB2 5 A compressor · CB3 5 A control
Feeder Protection (Field Supplied)	Upstream at the feeder panel (not in this panel): 30 A main feed · 5 A control feed
Timer / Scheduler	Elko SHT-13/2 Wi-Fi smart timer · Channel 1 spray output (contacts 15/18) · Channel 2 spare ·

PARAMETER	SPECIFICATION
	built-in run-time hour meter
Protection & Monitoring	PRI-51 UV current relay · Tecmark air pressure switch · pump level float (5–6) · high water alarm float (7–8)
Alarm System	Beacon + horn with silence — powered by the control circuit
Enclosure	NEMA 4X polycarbonate · indoor or weatherproof outdoor · –20 °C to 50 °C
Field Wiring	26–10 AWG copper, 600 V, 60 °C · terminal torque 0.79 N·m (7.0 in-lbs)

PROTECTION & LOCKOUT MATRIX

The only output this panel ever locks out is the spray/dose pump — on air loss or UV fault, so under-treated effluent cannot be dispersed. Lockouts clear automatically when the condition is corrected. High water raises the alarm only: when treatment is healthy, the panel keeps dosing to bring the level down.

CONDITION	DETECTED BY	PANEL RESPONSE
Air pressure loss	Tecmark air pressure switch (N.O.)	Alarm · spray/dose pump LOCKED OUT
UV lamp fault / end-of-life	PRI-51 current monitor	Alarm · spray/dose pump LOCKED OUT
Insufficient dose level	Pump level float (terminals 5–6)	Timer cannot engage the pump — no alarm
High water	High water alarm float (terminals 7–8)	Alarm only — pump stays on schedule by design
Main power loss	—	Alarm system remains live on the control circuit feed
Pump run tracking	SHT-13/2 Channel 1 hour meter	Record hours at every service visit

FLOAT SWITCH SYSTEM

PUMP LEVEL FLOAT — TERMINALS 5 & 6

Enable + Redundant Protection

Enables the SHT-13/2 output and acts as a redundant safeguard: even on schedule, the timer cannot engage the spray/dose pump unless this float indicates sufficient water for a full dose.

HIGH WATER ALARM FLOAT — TERMINALS 7 & 8

Alarm Only — By Design

Lands across terminals 7 (alarm power) and 8 (alarm signal). Triggers the beacon and horn but never locks anything out — high water means the pump is not keeping up, so the panel keeps it on schedule.

PROGRAMMING REFERENCE Step-by-step Elko SHT-13/2 dose scheduling (Section 6) and PRI-51 UV lamp supervision setup (Section 7) are provided in the CP-001-3-0006 Operation Manual v3.0 — including Wi-Fi programming from your phone, no app required. Both sections carry a QR link to the official Elko EP document.

SUPPORT & WARRANTY

All technical support, warranty claims, and service questions must be directed to:

AKHA Manufacturing, LLC

2055 Pidco Dr. / P.O. Box 640
Plymouth, Indiana 46563

Toll Free 800-370-3749 · Ph (574) 936-2542
hydro-action.com

Two (2) year limited warranty to the original purchaser, administered through AKHA Manufacturing, LLC. Legacy Controls does not accept direct end-user or installer inquiries for this product line.

COMPLIANCE & NOTES

- Installation by qualified personnel only, per NEC and UL 508A
- Field-supplied main disconnect required; verify with a voltage tester before opening — the control circuit stays live with the main OFF
- Feeder protection is field supplied at the main panel — 30 A main feed · 5 A control feed
- No overload devices inside this panel — both motors must incorporate integral overload protection
- All floats normally open (N.O.), customer supplied · UV lamp customer supplied, field installed
- Never override the air loss or UV fault lockouts
- Any alteration, modification, or unauthorized repair voids the UL listing and warranty
- See CP-001-3-0006 Operation Manual v3.0, Line Drawing v1.4, and Connection Diagram v1.3