Gravity UV Aeration Control Panel

120 VAC · Single Phase | Gravity-Flow Aerobic Treatment | Factory-Integrated CAM-4G Cellular Alarm

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

PANEL IDENTIFICATION

ENGINEERING MODEL CP-001-2-0003
DOCUMENT Specification Sheet v2.0
DATE August 2026
UL FILE NUMBER E547664
REFERENCE DRAWINGS Line Drawing v1.1 · Connection Diagram v1.0
COMPANION DOCUMENTS Operation Manual v2.1 · Troubleshooting Guide v1.0 · Quick Start Guide v1.0

PRODUCT OVERVIEW

Engineered and manufactured by Legacy Controls for AKHA Manufacturing, LLC, the CP-001-2-0003 provides continuous aeration, UV disinfection supervision, and high-water alarm annunciation for gravity-flow aerobic treatment systems. A factory-integrated CAM-4G cellular module sends SMS alarm notification to up to three numbers — no site network or gateway required.

KEY FEATURES

- Continuous compressor operation with air pressure switch verification
- UV lamp supervision by PRI-51/1 current monitoring relay
- Factory-integrated CAM-4G cellular alarm — SMS to three numbers, battery backed
- Separate control / alarm feed keeps annunciation live through a main power loss

⚠ READ FIRST — TWO SEPARATE 120 V FEEDS

This panel is fed by TWO separate 120 V circuits — main power on terminal 1 and a dedicated control / alarm feed on terminal 2. The control feed keeps the alarm circuit and the CAM-4G module live when main power is lost, so terminal 2 REMAINS ENERGIZED with the main feed off. Disconnect both circuits before opening the panel. Land the neutrals of both feeds on the same neutral bus in the feeder panel.

TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Operating voltage	120 VAC, 60 Hz, single phase — two separate feeds: main power (T1) and control / alarm (T2)
Compressor circuit	120 V, ¼ HP max (5.0 FLA) — motor must incorporate integral overload protection
UV ballast	Electronic or magnetic · 25–35 W customer-supplied lamp
Branch-circuit protection	Internal branch-circuit protection is sized according to the connected load and control system requirements
Supply circuits	Two separate 120 V circuits — main power on a 15 A breaker · control / alarm circuit 5 A max
Conductor sizing	The installer selects the upstream feeder and main disconnect and sizes all supply conductors per the NEC, including Articles 240, 310 and 430
Short-circuit current rating	5 kA
Overload protection	No overload devices inside this panel — the motor must incorporate integral overload protection
Alarm system	Red beacon · 95 dB horn · silence push-button · fed from the control circuit

PARAMETER	SPECIFICATION
Cellular notification	CAM-4G · 4G LTE CAT-1 with 3G/2G fallback · SMS to three numbers · AA battery backup
Enclosure	Type 4X polycarbonate
Field wiring	Copper, 600 V, 60 °C minimum · DK4N / DK4N-PE 22–10 AWG · DK2.5N / DK2.5N-PE 22–12 AWG
Terminal torque	Dinkle rated values — DK4N / DK4N-PE (GG12) M3, 0.6 N·m (5.3 in-lbs) · DK2.5N / DK2.5N-PE M2.5, 0.4 N·m (3.5 in-lbs)
Operating temperature	–30 °F to 140 °F
Listing	UL 508A Listed industrial control panel · File E547664

ROSTERED COMPONENTS

COMPONENT	FUNCTION
CAM-4G cellular alarm module	Monitors configured inputs and onboard temperature; sends SMS to up to three numbers. Configured by SMS text command.
PRI-51/1 current monitoring relay	UV lamp supervision — trip level and 0.5–10 s response delay factory set.
Air pressure switch	Verifies compressor output; a loss of air pressure raises a compressor fault.
R1 relay (dry contact)	Alarm relay — common, normally open and normally closed contacts available.

ALARM-ONLY BY DESIGN High water annunciates on the beacon, horn, and CAM-4G, and never interrupts compressor or UV operation.

COMPLETE PANEL DOCUMENTATION Scan for the current Operation Manual, Troubleshooting Guide, Quick Start Guide, and drawings for this panel.

legacy-controls.com/panels/CP-001-2-0003/

SUPPORT & WARRANTY

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hydro-action.com

COMPLIANCE & NOTES

- Installation by qualified personnel only, per NEC and UL 508A
- Field-supplied main disconnect required; verify with a voltage tester before opening
- No overload devices inside this panel — the motor must incorporate integral overload protection
- Neutrals from both feeds must land on the same neutral bus in the feeder panel
- Any alteration, modification, or unauthorized repair voids the UL listing and warranty
- Terminal assignments are given on Connection Diagram v1.0 and in Operation Manual v2.1