PLC Drip Nitrogen Reduction Control Panel

120 VAC · Single Phase | Siemens LOGO! PLC Control | Drip Dispersal · Nitrogen Reduction

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

PANEL IDENTIFICATION

ENGINEERING MODEL CP-001-1-0002
PANEL MODEL MCP-LV120-15A-PLCFS-1P-R1.0
DOCUMENT Specification Sheet v1.0
DATE August 2026
UL FILE NUMBER E547664
REFERENCE DRAWINGS Line Drawing V4.8.1 · Connection Diagram V4.8.1

PRODUCT OVERVIEW

A UL 508A listed nitrogen-reduction control panel for drip dispersal systems. The panel carries the same treatment functions as the CP-001-1-0001 platform — recirculation, mixing, aeration and high-water annunciation — but replaces the discrete recirculation timers with a Siemens LOGO! programmable controller that runs the dose schedule, drip field flush, filter backflush, override counting and failsafe logic.

KEY FEATURES

- Siemens LOGO! PLC — time-scheduled dosing, retained override counting
- Automatic filter backflush and drip field flush solenoid control
- Four-motor control: dose pump, mixer, recirculation pump and compressor
- Separate 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 alarm / control feed on terminal 3. The alarm feed keeps annunciation live when main power is lost, so terminal 3 REMAINS ENERGIZED with the main feed off. Disconnect both circuits before opening the panel. The remote alarm circuit must not exceed 5 A.

TECHNICAL SPECIFICATIONS

PARAMETER	SPECIFICATION
Operating voltage	120 VAC, 60 Hz, 1-phase — two feeds: main (T1) and alarm / control (T3)
Connected load	24.0 A total — see the motor load table overleaf
Branch protection	CB1 20 A · CB2 20 A · CB3 10 A · CB4 10 A
Minimum supply circuit	PROVISIONAL — NEC 430.24 gives 25.75 A. Awaiting ruling.
Alarm circuit	Remote alarm circuit must not exceed 5 A
Overload protection	None in panel — every motor must incorporate integral overload protection
Control platform	Siemens LOGO! PLC — 8 digital inputs, 4 relay outputs
Field devices	Two flush solenoids · four floats · pressure switches 1 and 2 (field supplied)
Field wiring	26–10 AWG copper, 600 V, 60 °C minimum
Terminals	Dinkle DK10 · DK4 / DK4N-PE · DK2.5 / DK2.5N-PE
Terminal torque	Dinkle rated values — DK4 0.6 N·m (5.3 in-lbs) · DK2.5 0.4 N·m (3.5 in-lbs) · DK10 per Dinkle datasheet (value owed)
Listing	UL 508A Listed industrial control panel · File E547664

MOTOR LOADS

LOAD	TERMINAL	RATING	FLA
Dose pump	8	3/10 HP	7.0 A
Mixer	7	3/10 HP	7.0 A
Recirculation pump	6	1/4 HP	5.0 A
Compressor	5	1/4 HP	5.0 A

OPERATOR CONTROLS

REF	CONTROL	FUNCTION
B1	Rotary selector	Alarm horn silence
B2	Momentary push-button	Alarm test
B3	Filter flush (HAND)	Manual filter backflush
B4	Dose pump (HAND)	Manual dose cycle
B5	Field flush (HAND)	Manual drip field flush

PLC SCHEDULE — AS SPECIFIED

SETTING	VALUE
Dose ON time	12 minutes
Dose OFF time	1.75 hours
Override	Engages whenever demand requires it. The PLC counts and retains total overrides.

ALARM-ONLY BY DESIGN High water annunciates on the beacon, horn and remote alarm output, and never interrupts dosing, recirculation or aeration.

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

www.legacy-controls.com/panels/CP-001-1-0002/

SUPPORT & WARRANTY

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

COMPLIANCE & NOTES

- Installation by qualified personnel only, per NEC and UL 508A
- Main panel disconnect must be provided and installed by the installer
- Pressure switches 1 and 2 must be provided by the installer
- Every motor must incorporate integral overload protection
- Any alteration or unauthorized repair voids the UL listing and warranty