

Dual Voltage Simplex Pump Control Panel

120/240 VAC · Field Selectable | 3-Float or 2-Float Demand Control | UL 508A Listed

DESIGNED & MANUFACTURED BY LEGACY CONTROLS · MIMS, FLORIDA · UL 508A LISTED

DOCUMENT VERSION **3.2 (Full)**

DATE **August 2026**

PART NUMBERS **CP-001-4-0001 & 4-0003 · Retail LE-4001 / LE-4003**

UL FILE NUMBER **E547664**

PREPARED BY **Legacy Controls · 6200 FL-46, Mims, FL 32754**

COMPLIANCE **UL 508A Listed**

SOLD & SERVICED THROUGH **Authorized Legacy Controls Dealers**

WEB **Legacy-Controls.com**

Designed and manufactured by Legacy Controls, this UL Listed simplex control panel provides reliable demand (float-controlled) operation of a single pump with dual-voltage flexibility — 120 or 240 VAC, field selectable by grouping pin. A 3-float system — On, Off, and High Water — delivers level-controlled pumping and high-water alarm protection in a Type 4X indoor/outdoor enclosure, and is field configurable to 2-float operation using the supplied grouping pins. Retail model LE-4001 supplies the panel only; LE-4003 includes the float switch set.

SERVICE & SUPPORT — CONTACT YOUR DEALER FIRST This control panel is sold and serviced through authorized dealers and installers. For all technical support, service calls, alarm response, and warranty claims, contact the dealer or installer who supplied your system. Manufactured by Legacy Controls, Mims, Florida. If your dealer or installer cannot be reached, visit Legacy-Controls.com.

READ FIRST — CONTROL-CIRCUIT JUMPER & 120/240 V SELECTION

A factory-installed wire jumper powers the control circuit — the logic relay, indicators, HOA switch, and alarm — from L1, feeding the Separate Control Feed terminals. The panel will not operate without it. Remove this jumper only when providing a separate 120 V control-circuit feed; a separate feed remains energized when the main feed is off. This panel ships configured for 120 V with a grouping pin between Terminal 2 and Neutral — **remove the grouping pin for 240 V** and verify with a multimeter before energizing. A neutral conductor is required even for 240 V installations — the control circuit operates at 120 V.

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1. SAFETY INSTRUCTIONS

WARNING Electrical hazard. This panel operates at 120 V or 240 V AC. Improper handling can result in serious injury, death, electrical shock, fire, or equipment damage. Only qualified personnel familiar with local electrical codes (NEC) and UL 508A standards should install, operate, or maintain this panel.

Critical Safety Requirements

- **Power Off Procedures** — disconnect all power sources before opening the panel or performing any wiring. Where a separate control-circuit feed is installed (factory jumper removed), that feed remains energized when the main feed is off — disconnect it as well. Use proper lockout/tagout procedures and verify with a voltage tester.
- **Control Circuit** — the control circuit powers every controlling function of the panel. Verify the factory control-circuit wire jumper is in place — it feeds the Separate Control Feed terminals from L1 — or that the separate control-circuit feed is landed, before energizing. This wire jumper is distinct from the 120/240 grouping pin.
- **Voltage Verification** — check the schematic and confirm the voltage configuration (120 V or 240 V) before energizing. Factory default is 120 V AC via the grouping pin between Terminal 2 and Neutral.
- **Neutral** — a neutral conductor is required even in 240 V installations — the control circuit operates at 120 V. Land the neutral on the panel's neutral terminals per the connection diagram.
- **Grounding** — ensure proper grounding of the panel and all connected equipment. All grounding terminals, including the rail, are bonded via pass-through terminals.
- **Overload Protection** — overload protection is integral to the pump motors — this panel contains no overload devices. The alarm circuit is limited to 5 A.
- **Environmental Protection** — the Type 4X enclosure is rated for indoor/outdoor use but must be protected from direct water exposure. Install in a non-hazardous location.
- **Field Wiring** — use copper conductors rated 60 °C minimum. Torque all terminal screws to 0.79 N·m (7.0 in-lbs).
- **Unauthorized Modifications** — any alteration, modification, or unauthorized repair will void the UL listing, the manufacturer's warranty, and may create serious safety hazards.

CAUTION A main panel disconnect switch must be supplied and installed in the field. Always verify with a voltage tester before working inside the panel.

2. SPECIFICATIONS

Panel Identification & Ratings

PARAMETER	SPECIFICATION
Part Numbers / Models	CP-001-4-0001 & CP-001-4-0003 · Models LE-4001 / LE-4003 (LE-4001 panel only · LE-4003 includes floats)
UL File Number	E547664
Voltage	Dual — 120 VAC (factory default; grouping pin between Terminal 2 and Neutral) or 240 VAC (remove pin)
Pump Capacity	Single pump, up to 20 FLA — 1 HP @ 120 VAC or 2 HP @ 240 VAC
Supply Circuit	30 A minimum supply circuit ampacity — 25 A pump branch + 5 A alarm & control circuit branch · control circuit fed from L1 via factory wire jumper · optional separate 120 V control-circuit feed
Control System	3-float demand control (On · Off · High Water) with R1 logic relay · field configurable to 2-float via grouping pins
Alarm System	Red globe (visual) + buzzer (85–95 dB audible) · alarm test push button · buzzer ON/OFF switch · alarm circuit limited to 5 A
Protection	25 A MCB for pump + IEC installation contactor · 5 A MCB for alarm and control circuits
Enclosure	Type 4X polycarbonate, indoor/outdoor · 10 × 8.4 × 5.2 in · approx. 7 lbs
Field Wiring	Copper, 60 °C minimum, 26–10 AWG, 600 V · terminal torque 0.79 N·m (7.0 in-lbs)
Environment	0 °C to 40 °C (32–104 °F) · up to 95% humidity, non-condensing

Controls & Indicators

PARAMETER	SPECIFICATION
Pump Selector (HOA)	3-position rotary: AUTO — float controlled · OFF — pump disabled · ON — manual override (testing only)
Pump Run Indicator	Green pilot light — illuminates whenever the pump is running
Alarm Test	22 mm push button — tests the alarm globe and buzzer
Alarm Buzzer Switch	2-position rotary: ON — buzzer enabled · OFF — buzzer silenced (globe remains lit until the condition clears)

3. INSTALLATION INSTRUCTIONS

WARNING Installation must be carried out by qualified personnel only. Follow local electrical codes (NEC) and consult the panel schematic and connection diagram.

1. **Mounting** — secure the panel to a stable vertical surface using appropriate hardware. Ensure accessibility for maintenance, visibility of controls, and clearance for ventilation.
2. **Voltage Configuration** — for 120 V: leave the factory-installed grouping pin between Terminal 2 and Neutral. For 240 V: remove the grouping pin. Verify with a multimeter before powering on.
3. **Control Circuit** — verify the factory control-circuit wire jumper is in place — it feeds the Separate Control Feed terminals from L1. If a separate 120 V control-circuit feed is used instead, remove this wire jumper — not the 120/240 grouping pin — and land the feed on the Separate Control Feed terminals per the connection diagram. Without power on this circuit, the panel will not operate.
4. **Float Configuration** — confirm the grouping pins match the intended float setup — Configuration A (3-float, factory default) or Configuration B (2-float) per Section 4 — before wiring the floats.
5. **Float Installation** — position the floats for pump-down operation: Off Float lowest, On Float above it, High Water Float highest. All floats must be normally open (NO) type.
6. **Power Supply** — connect to a dedicated circuit providing a 30 A minimum supply circuit ampacity — 25 A pump branch + 5 A alarm & control circuit branch — this is feeder protection at the main panel, not part of this panel. Install a field-supplied main disconnect switch upstream.
7. **Grounding** — connect the ground wire to the designated terminal. All other grounding terminals, including the rail, are bonded via pass-through terminals.
8. **Testing** — after wiring, test all functions — pump start and stop levels, high-water alarm, and alarm test button — in a safe environment before commissioning.

4. WIRING AND CONNECTIONS

Refer to the CP-001-4-0001 Line Drawing v2.8 and Connection Diagram v2.3 (reproduced on the following pages for reference) for complete wiring details. The connection diagram identifies the control-circuit feed as the “Separate Control Feed” — it supplies power to every controlling function of the panel: the R1 logic relay, indicators, HOA switch, and alarm.

Incoming Power (120/240 V)

- **L1** — Hot (black), Terminal 1
- **L2 / N** — Hot or Neutral (white for 120 V; hot for 240 V), Terminal 2
- **Ground** — Green, to the designated grounding terminal
- **Grouping Pin** — between Terminal 2 and Neutral for 120 V (factory installed); remove for 240 V

Control Circuit (Separate Control Feed)

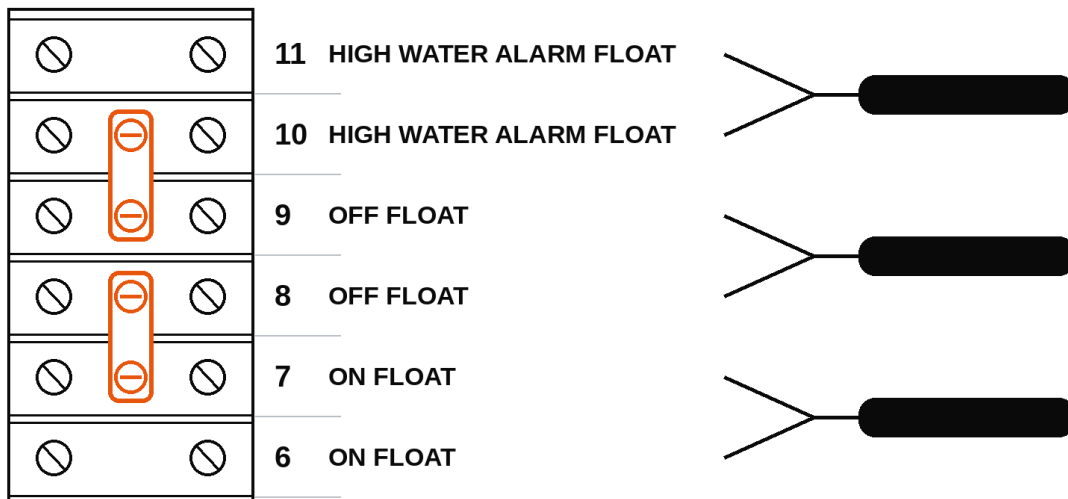
- **Standard** — a factory-installed wire jumper feeds the Separate Control Feed terminals from L1, powering the control circuit. No field action is required. Do not confuse this wire jumper with the 120/240 grouping pin on the incoming terminal group.
- **Separate Feed (Optional)** — remove the wire jumper and land a dedicated 120 V feed on the Separate Control Feed terminals — Incoming 120 V (X1), Incoming Neutral (N2), and Utility Ground (G1) — per the connection diagram. A separate feed remains energized when the main feed is off — see Section 1.

NEUTRAL REQUIRED This panel requires a neutral conductor even in 240 VAC installations — the alarm and control circuits operate at 120 V.

Float Configurations & Grouping Pins

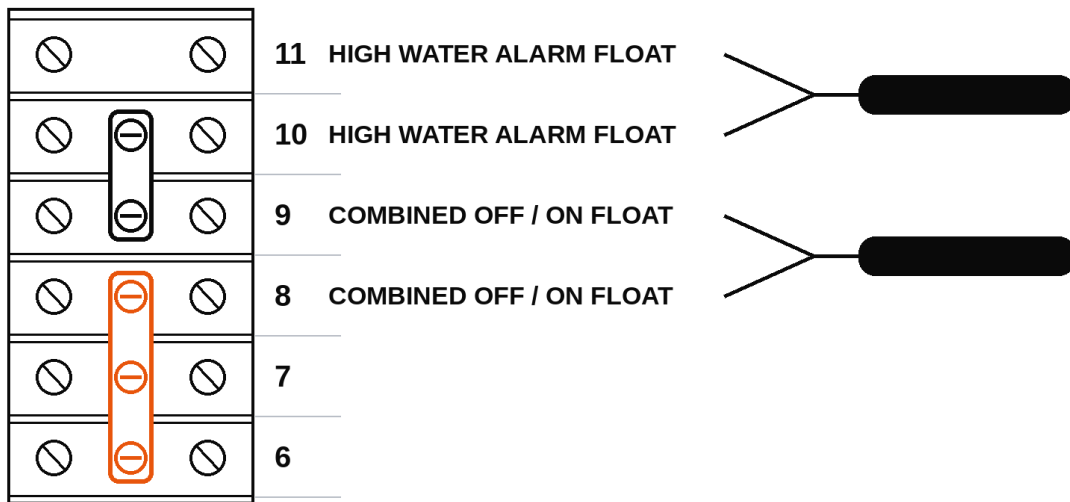
This panel supports two field-configurable float setups using grouping pins on the terminal block. All pins are included with the panel. Make configuration changes only with power disconnected.

CONFIGURATION	FLOAT SETUP	DESCRIPTION
A (Default)	3-Float	Separate On, Off, and High Water Alarm floats — factory grouping pins on terminals 7–8 and 9–10
B	2-Float	Combined Off/On float + dedicated High Water Alarm float — remove the 7–8 pin and install the 3-pin jumper across terminals 6, 7, 8



Factory grouping pins installed: terminals 7–8 and 9–10.
Three floats — On (6 & 7) · Off (8 & 9) · High Water Alarm (10 & 11).

CONFIGURATION A — FACTORY DEFAULT · 3-FLOAT OPERATION



3-pin jumper installed across terminals 6, 7, 8 (7–8 pin removed). Combined Off/On float on 8 & 9.
High Water Alarm float on 10 & 11. The factory 9–10 pin remains installed — never connect it to terminals 6, 7, or 8.

CONFIGURATION B — FIELD OPTION · 2-FLOAT OPERATION

Configuration A — On Float on terminals 6 & 7 · Off Float on 8 & 9 · High Water Alarm Float on 10 & 11. Configuration B — combined Off/On float on 8 & 9 · High Water Alarm Float on 10 & 11. The factory 9–10 pin remains installed in both configurations and must never be connected to terminals 6, 7, or 8. All floats are normally open (NO), pump-down. Verify the pin configuration after any change and before restoring power.

Field Connections

Pump connections on terminals 4 & 5; float connections per the configuration above; alarm devices per the connection diagram. The control circuit feeds logic relay R1, which latches pump contactor M1 — the pump starts when the On Float closes and holds through the Off Float until the level drops below it. Wire gauge 26–10 AWG copper, 600 V · torque 0.79 N·m (7.0 in-lbs).

WARNING Verify all connections match the schematic before energizing. Incorrect wiring can cause faults or create safety hazards. Always confirm the control circuit is powered — via the factory jumper or the separate feed.

5. OPERATION

Float Switch System

FLOAT	FUNCTION	POSITION / EFFECT
Off Float	Stops the pump — releases the R1 latch	Lowest — sets the pump-stop level
On Float	Starts the pump — picks the R1 latch	Above the Off Float — sets the pump-start level
High Water Float	Alarm activation only	Highest — alarm only; no pump control

Operating Modes

Startup: set the Pump Selector to AUTO and the Alarm Buzzer switch to ON, then power on the panel — including the separate control-circuit feed where one is installed.

AUTO: the pump starts when the rising level closes the On Float and continues running — latched through the Off Float by logic relay R1 — until the level drops below the Off Float. This hysteresis between the start and stop levels delivers full drawdown on every cycle. The High Water Float activates the alarm only.

ON (Manual): the pump runs continuously, overriding the floats — use for testing only. OFF: the pump is disabled.

Alarm Operation

A high-water condition activates the red globe and buzzer. Rotate the Alarm Buzzer switch to OFF to silence the buzzer; the globe remains lit until the condition is resolved. Press the Alarm Test button to verify both. The green Pump Run light illuminates whenever the pump is active. The panel is designed for unattended operation but requires the periodic checks in Section 6.

6. MAINTENANCE AND TROUBLESHOOTING

Maintenance Schedule

INTERVAL	TASKS
Biannually	Test the alarm globe and buzzer using the Alarm Test button · verify the Alarm Buzzer ON/OFF switch
Biannually	Manually actuate each float and verify pump and alarm response · inspect float cables for damage
Biannually	Verify the control-circuit wire jumper or separate feed · check grouping-pin seating (voltage and float configuration) · re-torque terminals 0.79 N·m (7.0 in-lbs)
Biannually	Test manual pump operation (selector ON) and verify it stops when returned to AUTO or OFF · confirm all indicators function
Biannually	Inspect the enclosure, door seal, latches, and conduit entries · document all findings and corrective actions
As Required	Clean the enclosure · replace components only with manufacturer-approved parts

Troubleshooting

ISSUE	POSSIBLE CAUSE	RESOLUTION
No power / panel dead	Control-circuit jumper missing or loose · feeder breaker off · wrong voltage configuration	Verify the factory control-circuit wire jumper (or separate control feed), the feeder breaker, and the grouping-pin configuration
Pump won't start in AUTO	Floats, selector position, or motor overload	Verify the selector is in AUTO; actuate the On and Off Floats; check the pump's integral overload; confirm M1 coil voltage
Pump won't stop	Off Float stuck closed · wiring short · R1 latched	Actuate the Off Float; check for shorts on the float circuit; a failed R1 logic relay can hold the run signal
Alarm not activating	High-water float or test circuit fault	Manually lift the high-water float; press the Alarm Test button
Buzzer not silencing	Buzzer switch position	Check the Alarm Buzzer ON/OFF switch

A complete device-classified troubleshooting reference — the CP-001-4-0001/0003 Troubleshooting Guide — is supplied with this panel.

IF ISSUES PERSIST Contact your authorized dealer or installer with the model and serial number — their information is recorded on the Service & Support card at the front of this manual. If your dealer cannot be reached, visit Legacy-Controls.com.

7. WARRANTY

Definitions

“Product” refers to the UL Listed industrial control panel manufactured by Legacy Controls, including all components, assemblies, and associated hardware as originally supplied. “Defect” means a failure of the Product to conform to Legacy Controls’ published specifications due to faults in materials or workmanship under normal use and service. “Authorized Service Provider” means Legacy Controls or its designated dealers, distributors, or repair facilities authorized in writing by Legacy Controls. “Original Purchaser” means the end-user who first purchases the Product from Legacy Controls or an authorized dealer/distributor for use, not resale. “Warranty Period” means the period of two (2) years commencing from the date of original purchase as evidenced by valid proof of purchase.

Warranty Statement

Legacy Controls warrants to the Original Purchaser that the Product will be free from Defects in materials and workmanship for the Warranty Period when used in accordance with the instructions provided in this operation manual, the accompanying panel schematic and connection diagram, and applicable UL standards (including UL 508A for industrial control panels). This Limited Warranty is non-transferable and applies only to the Original Purchaser. It does not extend to any subsequent owners or users.

Coverage

If a Defect occurs during the Warranty Period, Legacy Controls or an Authorized Service Provider will, at its sole discretion, repair or replace the defective Product or component. Repaired or replaced Products or components are warranted for the remainder of the original Warranty Period or ninety (90) days from the date of repair or replacement, whichever is longer.

Exclusions & Limitations

This Limited Warranty does not cover damage or failure resulting from misuse, abuse, negligence, improper installation or maintenance, alterations by unauthorized parties, normal wear and tear, cosmetic damage, environmental deterioration, external factors, or products purchased from unauthorized sellers. Consumable items such as fuses and bulbs are excluded unless the defect is due to manufacturing workmanship. The High Water Float provides alarm notification only; Legacy Controls shall not be liable for overflow, discharge, or resulting damage occurring during an alarm condition. Liability is limited to the original purchase price. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, LEGACY CONTROLS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, OR EXEMPLARY DAMAGES.

Making a Warranty Claim

All warranty claims must be submitted through the authorized dealer or distributor from whom the Product was purchased, with proof of original purchase, the model number, and a detailed description of the issue. The dealer will coordinate the claim with Legacy Controls. The Product will be inspected to verify the Defect and eligibility, and the Original Purchaser will be notified of the results and proposed resolution within a reasonable time, typically within thirty (30) days of receipt.

Component Substitution

Legacy Controls reserves the right to substitute any control panel component with an alternative meeting equivalent specifications, including identical operational parameters and performance standards. Legacy Controls assumes full responsibility for the functional performance of any such substitution and for its continued compliance with all applicable regulatory and operational requirements.

Governing Law

This Limited Warranty shall be governed by the laws of the State of Florida. Any disputes shall be resolved exclusively in the state or federal courts located in Brevard County, Florida.

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LEGACY CONTROLS

UL FILE NUMBER: E547664

PANEL DESCRIPTION
SIMPLEX
DUAL VOLTAGE
120/240VAC

DRAWN BY:

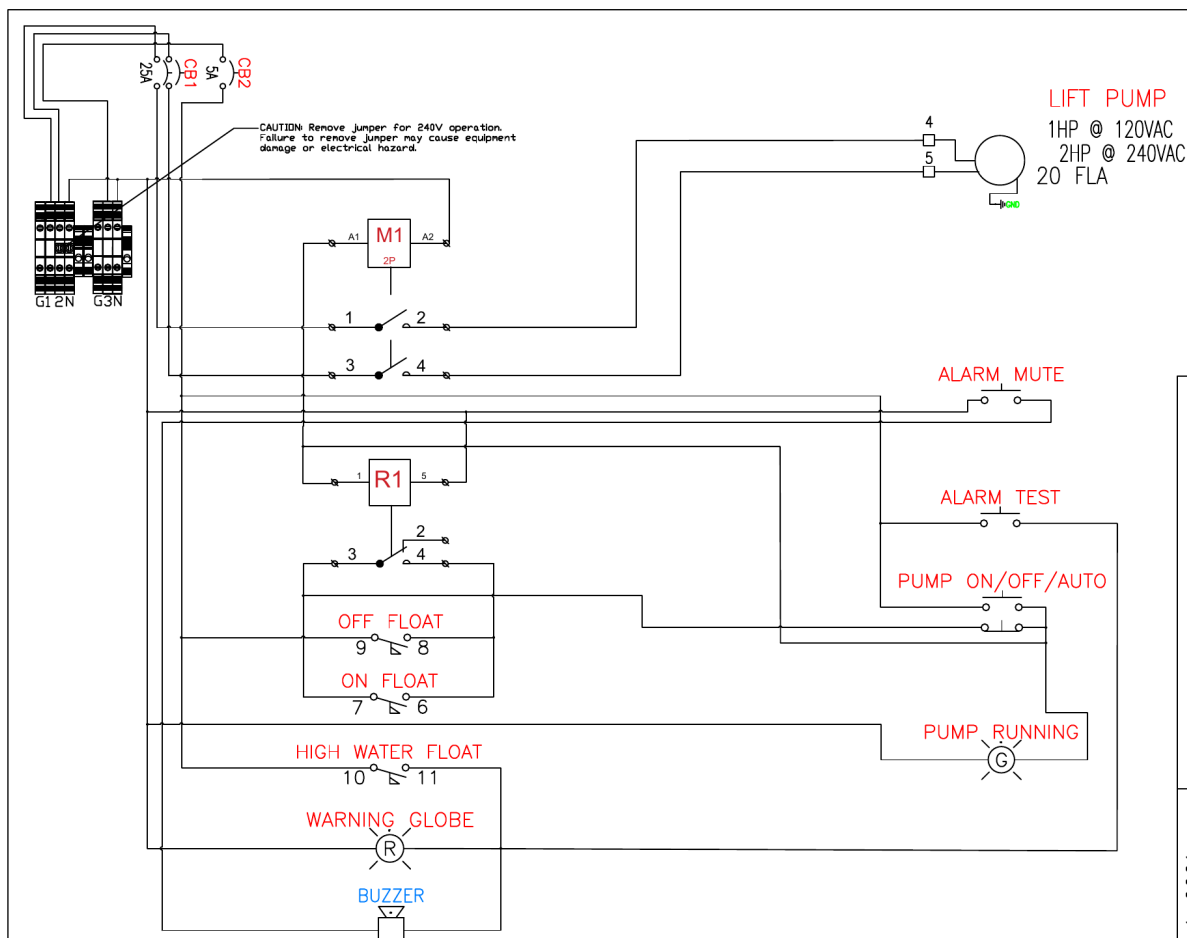
ENGINEER:
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DATE:
03/05/26

DWG#
4-0001
v2.8

PAGE #

1



GENERAL NOTES

WARNING: PLEASE CHECK SCHEMATICS TO VERIFY PANEL VOLTAGE!!!

- This panel is suitable for dual-voltage operation. It is factory-configured for 120 V AC via terminal grouping pin. For 240 V AC operation, remove the grouping between Terminal 2 and neutral.
- All motors shall incorporate internal overload protection.
- Alarm circuit shall not exceed 5 A.
- Main panel disconnect shall be supplied and installed in the field.
- Field wiring shall be copper conductors rated 60 °C minimum.
- Terminal screws shall be tightened to 0.79 N m.
- Alteration of this panel voids the manufacturer's warranty.

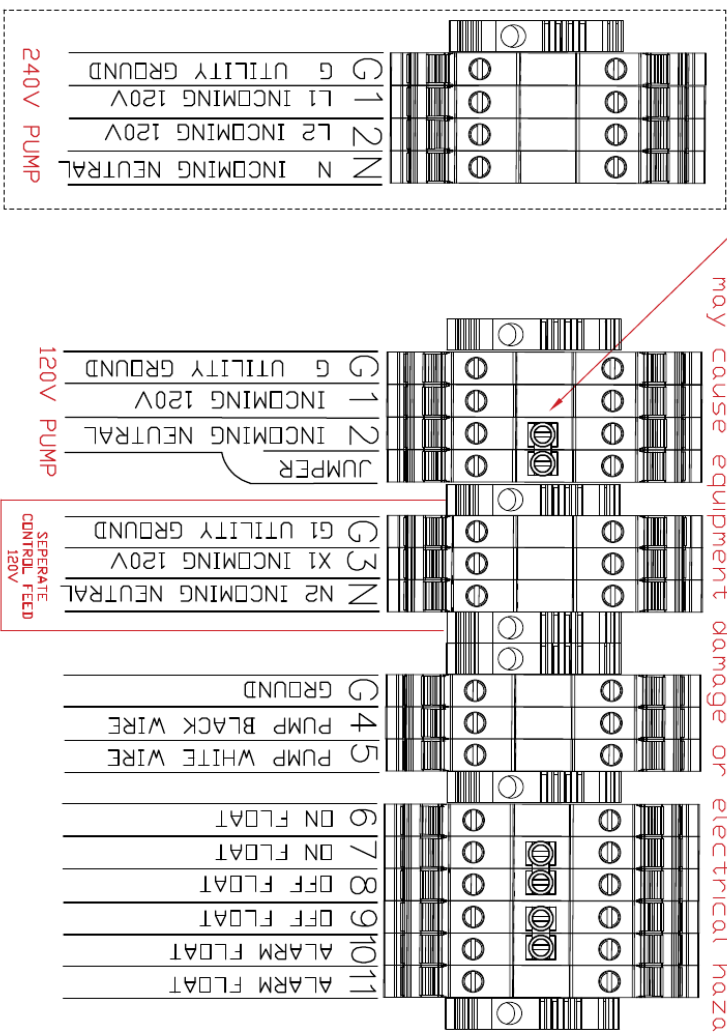
FIGURE 1 — LINE DRAWING V2.8 (REFERENCE)

TIGHTENING TORQUE FOR TERMINAL BLOCKS IS 4.425 in-lbs.

PANEL MODEL #
CP-001-4-0001

v2_3

CAUTION:
Remove jumper for 240V operation. Failure to remove jumper may cause equipment damage or electrical hazard.



TERMINAL CONNECTION DIAGRAM

TERMINAL BLOCKS
PINOUT DIAGRAM
26-10 AWG, 600V, 60C

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FIGURE 2 — CONNECTION DIAGRAM V2.3 (REFERENCE)