VOL

Panel Installation & AC Input Wiring

Installation Instructions

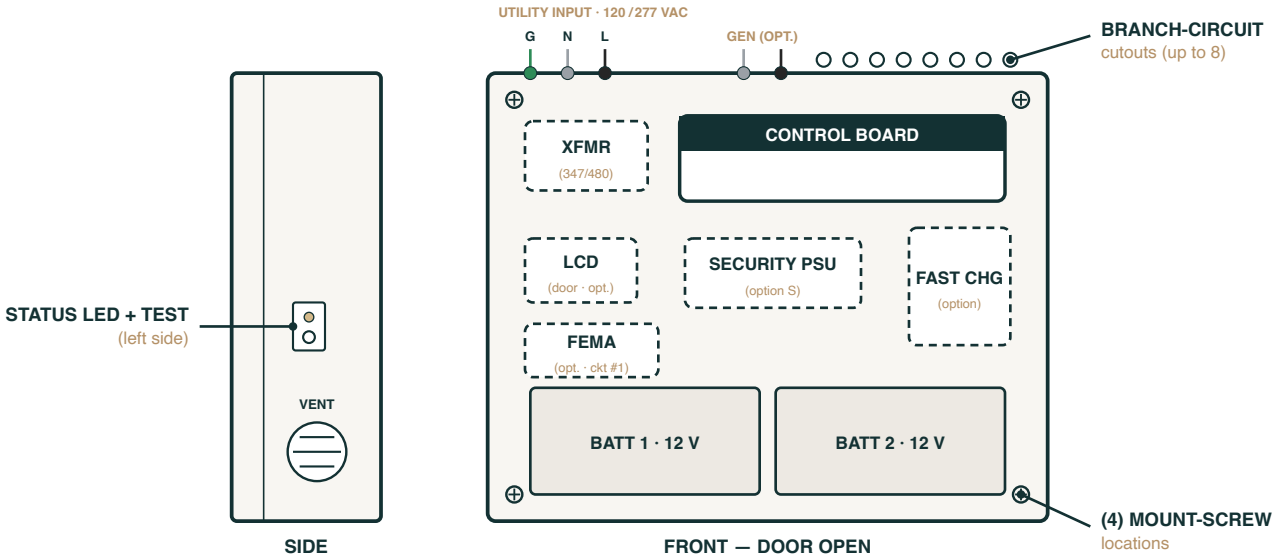
For use with Sage central-battery emergency lighting

NOTE: This device is a storage-battery system for emergency lighting per NEC Section 700.9, and includes Feeder Circuit Equipment. Para (D)(2) requires installation in spaces fully protected by an approved automatic fire-suppression system (sprinkler, CO_2, or equivalent) or having a 1-hour fire-resistance rating.

IMPORTANT SAFEGUARDS — READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. Disconnect AC power before servicing.
2. Refer to the wiring diagram for proper connections.
3. All servicing should be performed by qualified personnel.
4. Consult your local building code for approved wiring and installation.
5. Do not use outdoors.
6. Do not use this equipment for other than its intended use.
7. Do not let power cords touch hot surfaces.
8. Mount and secure the unit at a location and height that avoids ready access and tampering by unauthorized persons.
9. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.

PANEL LAYOUT — COMPONENT LOCATIONS



Dashed components are factory-installed options — present only when ordered. Branch-circuit wiring detail: Page 3.

A) PANEL INSTALLATION & AC INPUT WIRING

Refer to the project circuit layout and circuit load schedule, if available.

1. Note the size and weight of the panel. Install four screw anchors at the mount-screw locations shown (23 × 27 in, H × W) on a suitable vertical surface — anchors rated for the complete panel weight. The mounting height should allow easy door access to the internal batteries.
2. For easier access before wiring hookup and branch-circuit installation, the control-panel assembly may be removed from the enclosure by unscrewing the four #8-32 flanged nuts. Set the assembly in a safe area and retain the four nylon spacers and nuts.
3. Make cutouts for the required connectors in the top surface of the enclosure, above the terminal bars, for up to eight emergency branch circuits.
4. Secure the enclosure in position. Install AC wiring for the control-panel input and the optional security-lighting input as shown, sized for the maximum VA loading of the panel capacity (1,000 W); connect to the labeled internal wiring with standard wire nuts, or to transformer terminals as required.
5. Connect the AC building-service GROUND circuit to the screw terminal provided in the base of the enclosure. DO NOT connect DC COMMON NEGATIVE to the enclosure or to AC service ground.

SAVE THESE INSTRUCTIONS

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Battery Installation

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B) BATTERY INSTALLATION

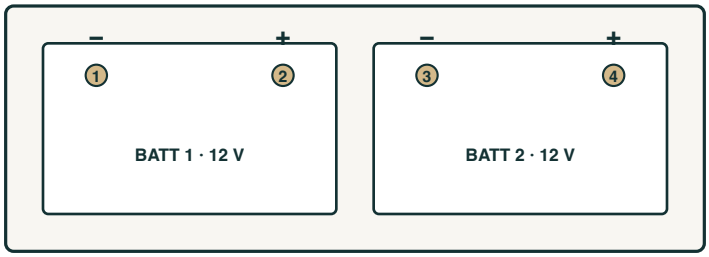
1. CAUTION — only qualified service personnel (e.g. a licensed electrician) should perform the battery and DC wiring. Always use insulated tools.
2. Full voltage and current are always present at the battery terminals. Do not touch uninsulated terminals or short them with a metal object.
3. Place the batteries in the base of the enclosure in the positions shown for the model. Connect each numbered harness (1–4) to match positive and negative terminals — do not reverse-polarize. With AC supply OFF, the system enters emergency mode once all terminals are connected (with the LCD option the display activates blank; emergency output live at 24 VDC).
4. If batteries are fully discharged under load and AC remains off, disconnect a battery terminal until AC supply is on — control-board microchips draw a small continuous current that can deep-discharge the batteries over time, especially in above-normal ambient temperatures.

BATTERY SPECIFICATIONS

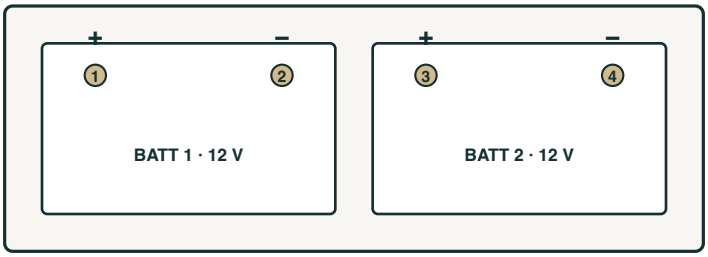
Model	Battery	Capacity	Battery L × W × D (in)	Terminal	Battery P/N
VOL-500	2 × 12 V	50 Ah	7.7 × 6.5 × 6.9	M8 nut/bolt	UB12500
VOL-1000	2 × 12 V	100 Ah	12.9 × 6.8 × 8.6	M10 nut/bolt	UB121000

TOP VIEW IN ENCLOSURE

VOL-500



VOL-1000



Battery arrangement and harness polarity differ by model — match each numbered harness (1–4) to the terminals shown for your model. Do not reverse-polarize.

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Batteries, Branch Circuits & System Test

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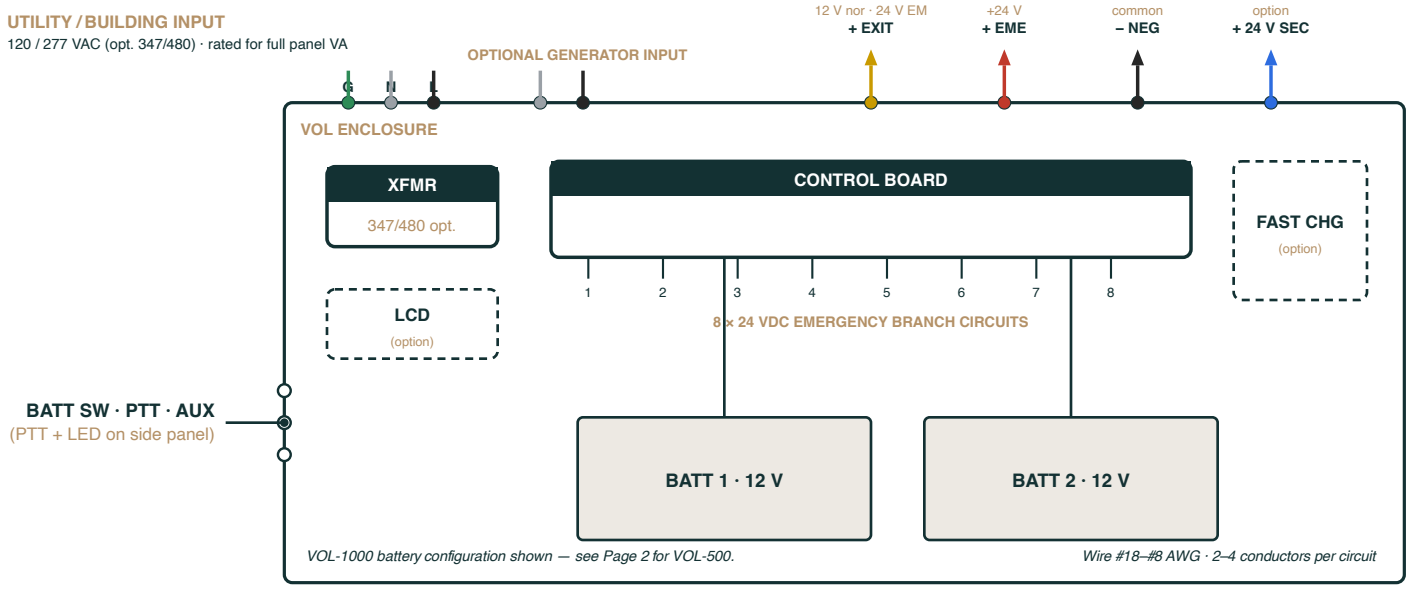
BATTERIES & BRANCH CIRCUITS



BRANCH-CIRCUIT WIRING

DC output: 8 branch circuits available, 2–4 conductors per circuit, #18–#8 AWG. Before energizing: confirm OPEN CIRCUIT from every branch conductor to earth ground; connect all common-negative returns to the BLACK terminal bar; with an ohmmeter (1–5 kΩ range) confirm relay-fitted fixtures read ≥ 50 Ω, and Sage emergency luminaires / exit signs read open circuit or ≥ 5 kΩ. Cross-connection between conductors causes improper operation.

Maximum 40 exit signs per central battery.

Branch wiring: exits-only 2-wire · EM-only 2-wire · exits + EM 3-wire · + security 4-wire. Wiring colors: exit signs Yellow & Black; emergency Red / Black / Blue (if security); CDO Black / Yellow / Red.

C) INITIAL SYSTEM TEST

1. Set the BATTERY slide switch ON, confirm all AC connections are complete, and turn the building AC supply ON. The side-panel status LED should light steady ORANGE or GREEN, or flashing ORANGE (flashing ORANGE = no load detected — normal until branch circuits are installed).
2. With a meter set to 12–24 VDC, measure COMMON NEGATIVE (Black) to the EXIT / CDO output: should read 12 VDC ±2 V. Press and hold PUSH-TO-TEST (PTT): the status LED turns OFF and the transfer relay operates; release PTT and the LED returns ON.
3. Press the red AUX button three times rapidly (within 2 seconds) to start the 90-minute ANNUAL TEST. Measure COMMON NEGATIVE to EMERGENCY (Red): should read 24 VDC ±2 V. Reset by disconnecting the 2-pin AC input plug at the circuit board (or the AC utility supply) for 5 seconds, then reconnecting.
4. After branch circuits are connected and checked, set the BATTERY switch ON and allow at least 24 hours of charge before testing emergency fixtures — full charge takes 24–72 hours depending on model (see the charger-board label).
5. Set the load-current datum: press and hold PUSH-TO-TEST, then press AUX for 5 seconds — the status LED flashes RED-pause-GREEN-pause to confirm the commissioned load is stored. Subsequent self-tests report a fault if the connected load changes by more than 10%.