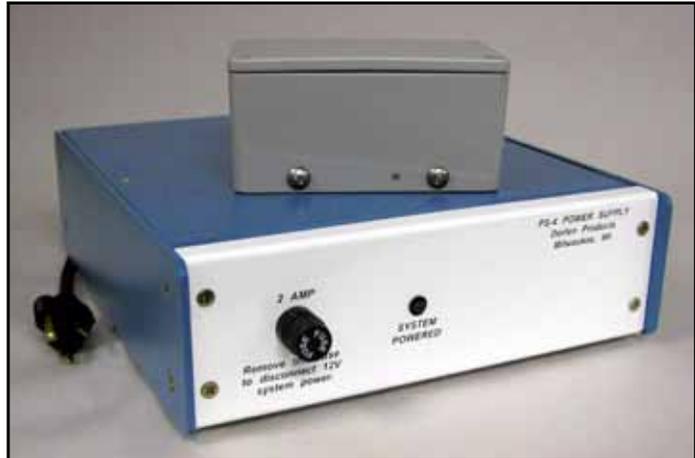


## INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS POWER SUPPLY, **PS-4**

### **WATER ALERT POWER SUPPLY, MODEL **PS-4****

DC power supply for VR-4 Water Alert detectors. Output - 12vdc



PS-4 w/ Model VR-4 Water Alert

#### FEATURES

- Operates up to 24 Water Alert detectors, Model VR-4. Wiring instructions furnished.
- Internal self-recharging battery provides back up power to system in event of line failure or power cord removal.
- **UL Listed** input transformer.
- Flashing LED indicating power to Water Alerts.
- Large screw-type terminal blocks at rear of enclosure for convenient wiring. Connection to Water Alerts is made by means of wire nuts.
- Short circuit, overload and over voltage protected.
- Rugged, attractive enclosure 8.5" W x 9.5" D x 2.5" H.

**GENERAL:** The PS-4 is designed to provide 12VDC power to Dorlen Products' Water Alert VR-4 detectors. The PS-4 operates off 120VAC line power and has, in addition, an internal rechargeable battery which will supply 12V power to the Water Alerts in the event of line power failure. The rechargeable battery will recharge when 120VAC is reapplied.

The PS-4 is short circuit protected and will recover immediately upon removal of the short condition. The maximum current that can be drawn from the PS-4 is 1.5 amp. The power supply will automatically shut down due to thermal overload if excess current is drawn. Upon removal of the excess load and a cooling period, the power supply will recover.

A 2-amp fuse is also included in the 12V output circuit. Since pulling the 120VAC plug will still leave the 12V power on (because of the internal battery), the fuse is removed when shipping (or storing) the PS-4. In the unlikely event of failure of the power supply, short circuit or overload protective circuitry the fuse will provide final protection of the system wiring in the event of short or overload. See paragraph 5, page 2 for initial power on procedure.

### CAUTION

The power supply enclosure and the 12V output is tied to earth ground by means of the grounding prong on the AC line plug. To insure absolute safety, this grounding arrangement should not be modified in any way.

### WIRING

1. The power wires from the PS-4 to the VR-4 Water Alerts should be wired in parallel. That is all (+) connected together and all (-) connected together.

2. In connecting the power supply to the array of Water Alerts it is necessary that the maximum total line resistance to the farthest Water Alert not exceed 50 ohms. The wire chart below may be helpful in determining the minimum wire size to use for a given installation.

Wire Ga. No. (AWG)	Resistance Ohms/1000 Ft.
22	16
20	10
18	6.4
16	4
14	2.5

## PS-4 continued

There are 3 (+) terminals and 3 (-) terminals on the rear panel of the PS-4. The (+)'s are tied together on the inside of the panel. The (-)'s are also tied together on the inside. The purpose of the three pins on each output is for wiring convenience. It may be desirable, as example, to run more than a single pair of wires to the Water Alerts.

4. The maximum number of Water Alerts that can be handled by one PS-4 is 24. In the standby or monitoring condition the current draw is about 5mA. When activated however, approximately 20mA is drawn per Water Alert.

If AC line power is lost and the system is being powered by the internal battery, the system will monitor for approximately one month (the limitation due to the small amount of battery current required by the regulator circuit).

If a Water Alert is activated when on internal battery, the approximate duration of buzzer operation can be estimated as:

$$\begin{aligned} \frac{2.6 \text{ Amp-hr Rating}}{.02 \text{ amp unit}} &= 130 \text{ hr.} \times \frac{10}{3} \text{ (duty cycle)} \\ &= \frac{1300}{3} = 433 \text{ hr.} \\ &= 18 \text{ days, plus} \end{aligned}$$

5. PS-4's have an "on-off" battery switch on the back of the unit. (Units are shipped with switch in "off" position.) When initially applying power to the PS-4, it is necessary to do so in the following sequence:

1. Battery switch to "off"
2. Front panel fuse inserted
3. AC line plugged in (green light flashing)
4. Battery switch to "on"

If the front panel fuse is removed for any reason, power should be reapplied by: first removing AC line cord and then reapplying power in the above manner.

6. The PS-4, when properly installed, should function year-in/year-out without maintenance. In the event of problems during the initial setup, establish clearly what the unit does or does not do that is improper and call Dorlen Products for technical assistance.

If you have installation questions, call **toll free** 1-800-533-6392

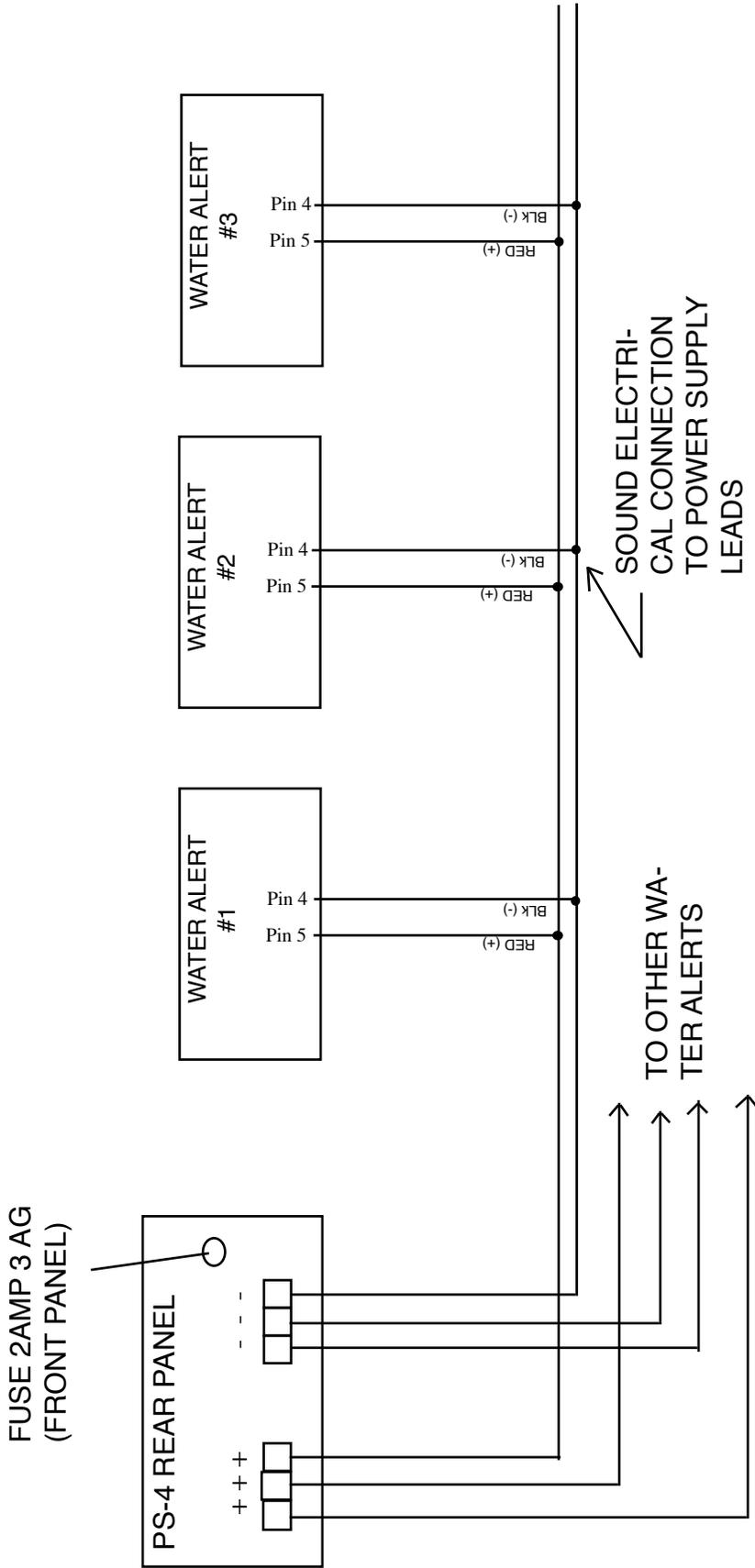


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NOTE: IF MORE THAN ONE PS-4 IS USED IN A GIVEN INSTALLATION, DO NOT PARALLEL THE PS-4'S. RATHER OPERATE GIVEN GROUPS OF WATER ALERTS ON INDIVIDUAL PS-4'S.

# PS-4 / WATER ALERT WIRING DIAGRAM