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**TEXT LINK<sub>TM</sub>**

Wireless GSM Monitoring and  
Alarm System

Installation and Operation  
Manual



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## **Introduction**

Thank you for purchasing our TEXT LINK system. We have made every effort to engineer and manufacture a high quality and dependable product. Our systems are factory tested to assure functionality and should deliver years of trouble free service. Please feel free to contact us with any questions regarding installation or any other matter.

## **Disclaimer**

**Elwood Controls, LLC accepts no responsibility and will not be held liable for damages resulting from the failure of the TEXT LINK system or the networks to which the system is connected. The end user shall, upon installation, fully test the installed system for proper functionality and re-test at regular intervals to validate system functions.**

**SMS text message service does not provide for acknowledgement of receipt of message at the destination cell phone.**

**System functionality is directly related to the quality of connection to the GSM network to which it is connected. Mobile application users must verify that the GSM-LINK has connection to the network prior to using the system for alarm reporting when moving between locations.**

**This manual shall be read in its entirety prior to performing any installation.**

## UPS 1224

## IMPORTANT SAFETY WARNINGS

This manual contains important instructions regarding the installation and operation of this device. Read this manual thoroughly before attempting to unpack, install or operate this device

**CAUTION!** The battery can energize hazardous live parts inside even when the AC input power is disconnected.

**CAUTION!** To reduce the risk of electric shock, do not remove the cover, except to service the battery. No user serviceable parts inside, except for the battery.

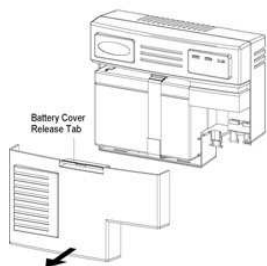
**CAUTION!** To avoid electric shock, turn off the unit and unplug it from the AC power source before servicing the battery or installing your equipment.

## INSTALLATION (QUALIFIED SERVICE PERSONNEL ONLY)

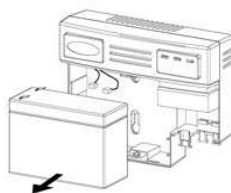
Please read this manual before installing this DC UPS as it provides important information that should be followed during the installation and repair of the DC UPS:

- 1.) The UPS 1224 is intended to be installed in a temperature controlled environment that is free of conductive contaminants. Select a location which will provide good air circulation for the DC UPS at all times. Avoid locations near heating devices, water or excessive humidity, or where the DC UPS is exposed to direct sunlight. Route power cords so they cannot be walked on or damaged.
- 2.) Remove the cover.
- 3.) Remove the battery.
- 4.) The wall mount screws must be the appropriate size for total weight of the UPS and the mounting structural material.
- 5.) Connect the battery negative (Black) wire to the battery negative terminal.
- 6.) Connect the battery positive (Red) wire to the battery positive terminal.
- 7.) Re-install the battery into the case.
- 8.) Connect the output wires and connector to the DC UPS.
- 9.) Connect the Communications Signal wires to the DC UPS.
- 10.) Re-install the cover.
- 11.) See the section "Operation" for the startup procedure.

Step 1. Remove the battery cover.



Step 2. Remove the battery.



Step 3. Tighten the suitable screws which can support the weight of this unit securely.



## OPERATION

- 1.) Plug the DC UPS power cord into the AC inlet on the DC UPS.
- 2.) Plug the DC UPS power cord into the wall outlet.
- 3.) Turn on the connected equipment.
- 4.) The DC UPS is ready for normal operation.



The DC UPS charges the battery when it is connected to utility power. It is recommended that the battery charge for minimum of 18 hours before use. The DC UPS may be used immediately, however, the "On Battery" runtime may be less than normally expected.

## BATTERY REPLACEMENT (QUALIFIED SERVICE PERSONNEL ONLY)

This DC UPS has a hot-swappable battery. Hot-swappable battery means that the battery can be replaced without powering down the whole DC UPS system.



If there is a power interruption while replacing the hot-swappable battery, with the DC UPS on, the load will not be backed up.

**CAUTION!** Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes and may be toxic.



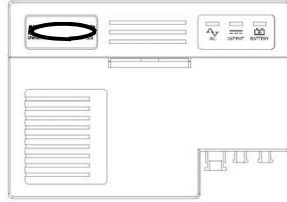
Do not dispose of batteries in a fire. The batteries may explode. The batteries in this UPS are recyclable. Dispose of the batteries properly. The batteries contain lead and pose a hazard to the environment and human health if not disposed of properly. Refer to local codes for proper disposal requirements.

**CAUTION!** Although battery system voltages are only 12VDC the battery system can still present a risk of electrical shock. The current capability of a battery is sufficient to burn wire or tools very rapidly, producing molten metal. Observe these precautions when replacing batteries:

- 1.) Remove watches, rings, or other metal objects.
  - 2.) Use hand tools with insulated handles.
  - 3.) Wear protective eye gear (goggles), rubber gloves and boots.
  - 4.) Do not lay tools or other metal parts on the top of the batteries.
  - 5.) Disconnect the charging source before connecting or disconnecting the battery terminals.
  - 6.) Determine if the battery is inadvertently grounded. If the battery is, remove the source of the grounding. Contact with any part of a grounded battery can result in an electrical shock. The likelihood of such shock will be reduced, if such grounds are removed during installation and maintenance.
- Step 4. Connect the black cable to the battery negative terminal on the new battery.
- Step 5. Connect the red cable to the battery positive terminal on the new battery.
- Step 6. Install the new battery into the battery compartment.
- Step 7. Tighten the battery stripe to secure the battery.
- Step 8. Re-install the battery cover.
- Step 9. The DC UPS is ready for normal operation.
- Step 10. Dispose of the old battery properly.

## Warning Indicator

- Front Panel



Green DC UPS is on utility power.  
Yellow DC UPS is on battery power.



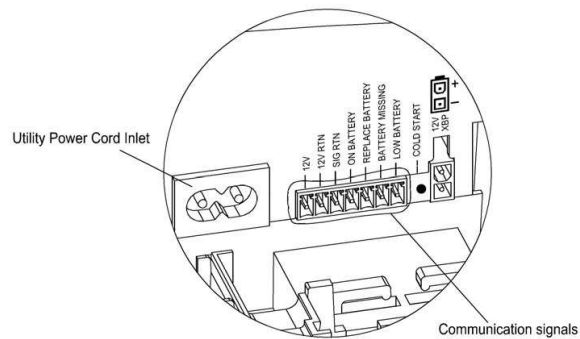
Green DC output power is provided by the battery or utility power.



Red The battery is not connected or the battery needs to be replaced.

## Communication Signals

The communication signals of this unit are isolated from the internal circuitry via open collector Opto-coupled transistors. The connection "SIG RTN" (Signal Return) is a common return point for all communication signals. In the typical application, the attached equipment digital ground connects to Signal Return, and pull-up resistors turn the open collector signals into logic



12V	+ Voltage output
12V RTN	- Voltage output
SIG RTN	Signal return
ON BATTERY	Low when operating from utility line. Open when operating from battery.
REPLACE BATTERY	Low when battery is charged. Open when battery fails the Self Test.
BATTERY MISSING	Low when battery is present. Open when battery is missing.
LOW BATTERY	Low when battery is near full charge capacity. Open when operating from a battery with < 20% capacity.

## SYSTEM DESCRIPTION

### TEXT LINK 4

The TEXT LINK 4 is a microprocessor based input/output controller that sends commands to the GSM-LINK when an alarm input is sensed. "Alarm 1 in" is dedicated to the WLD-1 water leak detector and cannot be used as a general purpose input. "Alarm 2 in" through "Alarm 4 in" are general purpose inputs and can be used for a variety of alarm conditions.

The TEXT-LINK 4 also has an embedded temperature sensor that senses low temperature of less than 37 degrees F and high temperature of greater than 93 degrees F.

The inputs "Alarm 2-4 in" continuously monitor any normally closed contact for an open condition. When the contact opens the TEXT-LINK 4 will initiate the sending of a text message that corresponds to that input. This allows these inputs to be general purpose in nature. When used in conjunction with our UPS1224 the these inputs can be wired to the "ON BATTERY" and "LOW BATTERY" outputs allowing the TEXT-LINK 4 to send text messages for loss of AC power and low battery respectively.

When an alarm condition occurs the TEXT-LINK 4 will send the first text message and then every 30 minutes it will resend the message until the alarm condition is remedied. This is done to assure that the text message gets to its final destination.

About every 30 days the system will perform a functionality test and send a text message to indicate proper functionality.

The LED on the front of the TEXT-LINK 4 is provided to indicate program functionality. Below is a list of flash sequences and their corresponding meanings.

2 flashes per second	Normal program cycle
(1) 1 second flash, 2 seconds on	Alarm 1 in (water leak) sending message
(2) 1second flashes, 2 seconds on	Alarm 2 in sending message
(3) 1second flashes, 2 seconds on	Alarm 3 in sending message
(4) 1second flashes, 2 seconds on	Alarm 4 in sending message
(5) 1second flashes, 2 seconds on	Low Temp sending message
(6) 1second flashes, 2 seconds on	High Temp sending message
(7) 1second flashes, 2 seconds on	Alarms Clear sending message
(8) 1second flashes, 2 seconds on	System test sending message

### GSM-LINK

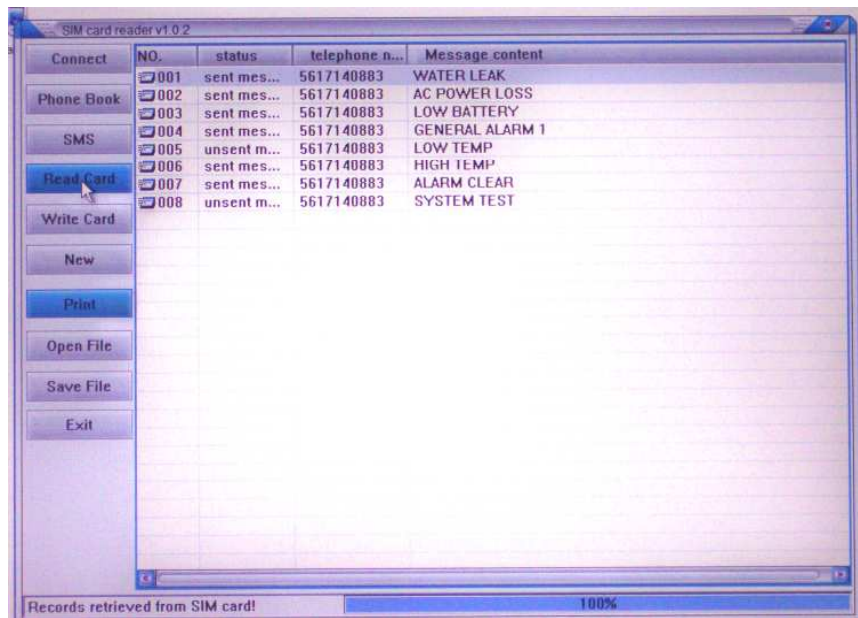
The GSM-LINK is the cellular transmitter that sends the alarm text message to the GSM network. Like GSM cell phone it uses a SIM card to enable it to communicate with the network, store network information and to store messages to be sent. This system will not function without a SIM card and a network subscription. Contact Elwood Controls for network subscription information.

Because this system has a wide range of applications the text messages and phone number the messages are sent to are sent on the SIM card. This allows programming the SIM with application specific messages. The most effective way to program and backup the SIM card is with a low cost SIM card reader/writer. Contact Elwood Controls if you need a SIM card reader/writer or assistance programming your SIM.

The input number of the TEXT-LINK 4 correspond to the message number stored on the SIM card. Message 1 is reserved for water leak detection, 5 and 6 are reserved for low and high temperatures respectively, 7 is reserved for alarm clear and 8 is reserved for system test.

Message Number	Input Number TEXT-LINK 4	Message	Suggested when used with UPS 1224
1	1	Water Leak	Water Leak
2	2	User designated	(AC power loss)
3	3	User designated	(Low battery)
4	4	User designated	(User designated)
5	internal	Low Temperature	Low Temperature
6	internal	High Temperature	High Temperature
7	internal	Alarm Clear	Alarm Clear
8	internal	System Test	System Test

### SIM reader/writer Windows screen example



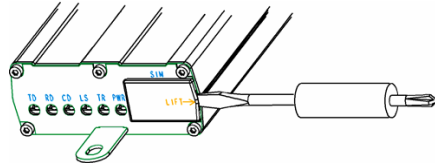
The above screen shows an example of a Windows SIM card reader/writer screen. On this screen the text messages and phone number they are to be sent can be added, deleted or edited. This screen also allows the user to create a backup file of the SIM card data that can be saved on the computers hard drive.

The phone number entered must be a text message enabled cell phone. A cell phone is used for notification because it is the most immediate method for delivering an alarm condition text message.

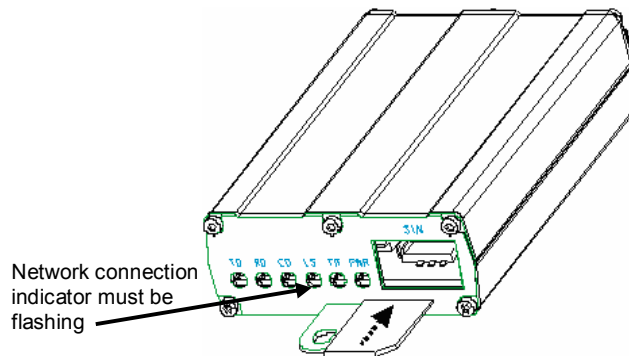
When a text message is not required for a specific alarm condition then the phone number should be left out for that message. For example if you do not want to receive notification of high temperature then the phone number in that message's phone number field can be left blank.

## INSTALLING THE SIM CARD

The SIM is installed in the opening marked SIM and covered by the grey rubber cover. Remove the cover shown in the figure below. In most cases the cover can be removed with fingers and a screw drive is not required.



Slide the SIM in as shown below using caution not to let the SIM fall into the opening before being captured by the holder.

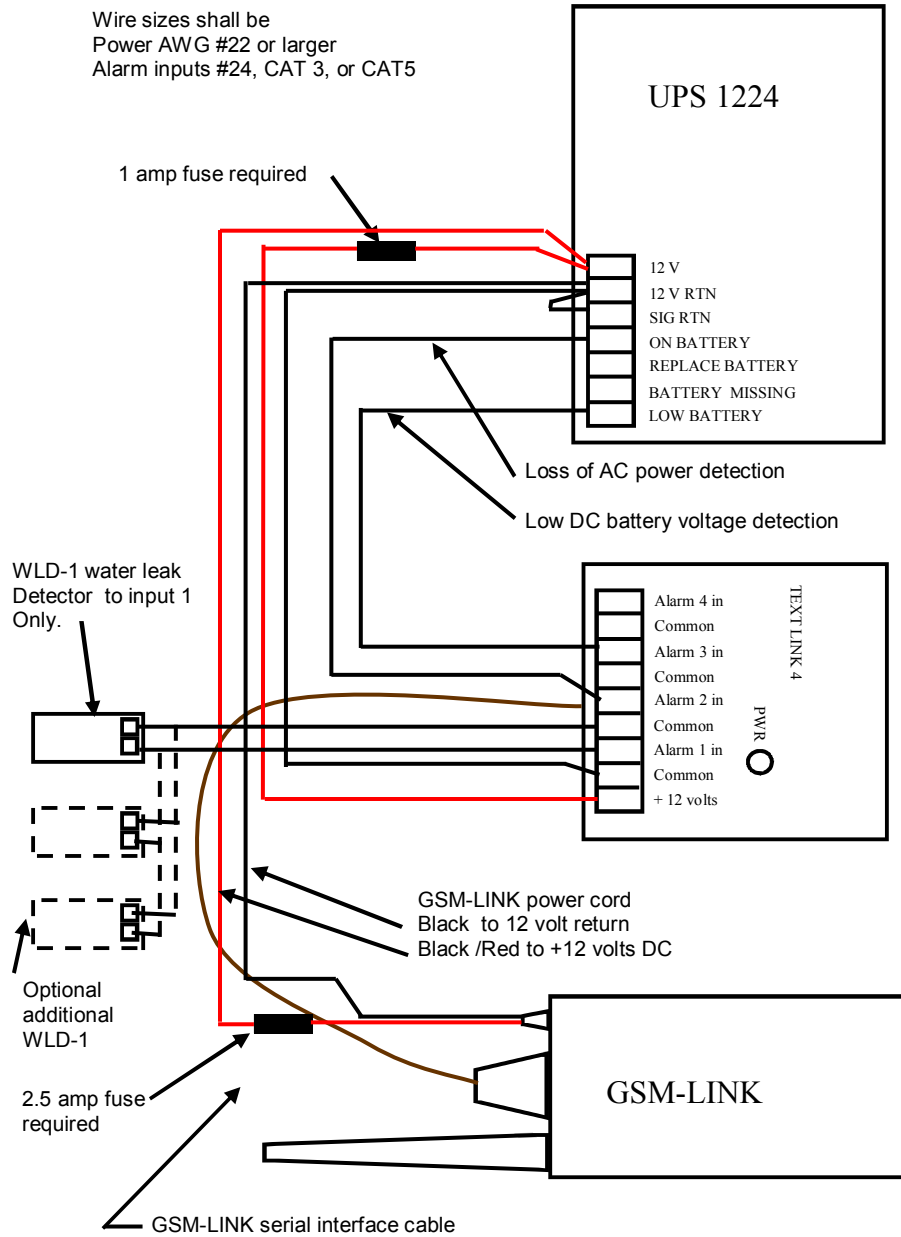


Once power is supplied to the GSM-LINK the "PWR" LED will be on continuously. The "LS" LED will stay on continuously until the modem locks onto the GSM network. If the "LS" light does not begin to blink at a rate of once every 2 seconds then the modem has not established a connection with the network and the system will not be able to send text messages.

## UPS 1224

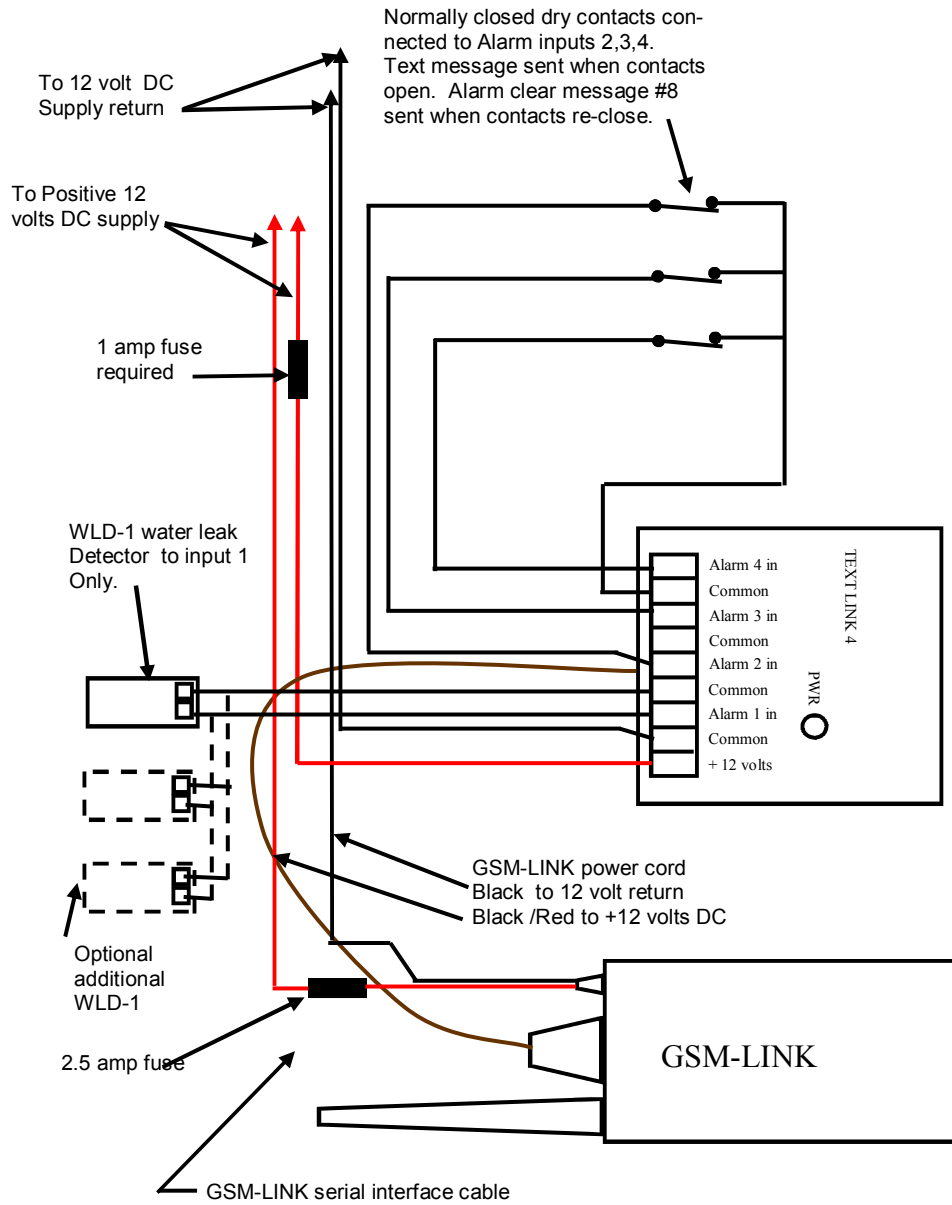
The UPS 1224 is an optional feature of the TEXT LINK system. It provides a cost effective backup battery power source as well as notification of loss of AC power and low battery voltage. In applications where a reliable 12 volt DC supply source is available the UPS 1224 may be omitted from the system. If an alternate source of power is used then it is recommended that a method of sensing low voltage is provided, Contact Elwood Controls for options for power source sensing.

# SYSTEM WIRING



Typical home, boat or RV monitoring installation wiring diagram

## SYSTEM WIRING ALTERNATIVE



Alternative wiring arrangement when UPS 1224 is not used in the system.

## **SYSTEM TESTING**

The installed system must be tested upon completion of installation and periodically thereafter. Alarm inputs 2 through 4 can be tested by opening the normally closed contact, waiting for ten seconds and then closing the contacts. The recipient cell phone should receive the alarm corresponding to that alarm number as programmed into the SIM card followed by an alarm clear, message number 8 on the SIM, message.

If the UPS 1224 is connected to the TEXT LINK 4 then the AC power cord can be unplugged from the AC power supply and a message should be received by the recipient cell phone indicating loss of power provided the SIM is programmed for that alarm message.

The WLD-1 can be tested by dipping it into a bowl of water. A text message should be received accordingly. Remove the WLD-1 from the water and dry it off and an alarm clear message should be received.

## **Periodic system maintenance**

The system should be tested as outlined above periodically. The WLD-1 should be inspected and cleaned, if required, periodically to prevent false alarm conditions. Network subscriptions must be renewed annually to assure continued connection to the GSM network.

## **Temperature sensor time hysteresis**

The temperature sensing function includes some inherent time hysteresis due to the housing and circuit considerations. The system has been calibrated to sense high and low temperatures during a gradual ambient temperature increase or decrease such as would be the case upon loss of space heating or cooling sources.

## **CONTACT INFORMATION**

**Phone**

**1-800-960-1747**

**Email**

**Technical support  
General Information**

**techsupport@elwoodcontrols.com  
info@elwoodcontrols.com**





