

# BACK-UP ALARM SPECIFICATIONS, INSTALLATION AND OPERATING INSTRUCTIONS

**SOUND LEVEL:** AUTOMATIC ADJUSTING 82 to 107 dB(A)  
**SYSTEM VOLTAGES:** 12 to 48 Volt Systems

SAFETY MESSAGE TO  
 INSTALLERS OF BACK-UP ALARMS



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People's lives depend on the safe installation of this product in conformance with these instructions. It is necessary to read, understand and follow all instructions shipped with the product. In addition, listed below are important safety instructions and precautions you should follow.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to those you are seeking to protect.

Back-Up alarms are intended for commercial use. Proper installation of a Back-Up alarm requires a good understanding of truck and heavy equipment electrical systems and procedures, along with proficiency in the installation and use of safety warning equipment.

When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.

Locate Back-Up alarm so it will operate properly under all conditions. The location must provide protection from impact and adverse weather conditions while allowing unobstructed sound projection to the target hazard area.

Inspect the Back-Up alarm system daily to ensure that it is audible and operating properly and that it is securely attached to the vehicle. More frequent inspections should be performed when:

The vehicle is operating in a particularly dirty environment.

The operator has reason to suspect the alarm has been damaged.

Increased background noise on the job site may interfere with the audibility of the alarm.

Store these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.

## A. SPECIFICATIONS (TYPICAL)

The Back-Up Alarm is a solid state audible warning device enclosed in a weather resistant housing. When activated, the Back-Up Alarm produces a tone that is interrupted at a rate of approximately 80 times per minute with equal on and off times. This alarm conforms to SAE J994 MAR85 recommendations excepting dB(A) sound level types. This alarm is UL recognized for use on Battery-Powered Industrial Trucks per UL 583.

<b>2.0</b>	<b>PHYSICAL SPECIFICATIONS</b>	<b>4.0</b>	<b>OUTPUT SPECIFICATIONS</b>
2.1	Electronics: Solid state	4.1	Sound level: Automatic to provide 10 + 4 dB(A) above ambient noise. 107 + 4 dB(A) maximum at 4 feet with 28 VDC applied and with 97 dB(A) of white noise. 82 dB(A) typical with no ambient noise. Slightly lower on lower voltages.
2.2	Sealing: Encapsulated to protect from dust, moisture and vibration.	4.2	Sound dispersion: Through 180° (graph available on request)
2.3	Housing: Black, 30% glass filled nylon	4.3	Pulse rate: 80 pulses per minute typical
2.4	Dimensions: 3.06"H x 5.00"W x 3.78"D (77.7 mm x 127.0 mm x 96.0 mm)	4.4	Frequency: 1150 Hz typical
2.5	Weight: 1 lb 7 oz (650 gm)	<b>5.0</b>	<b>ADDITIONAL INFORMATION</b>
2.6	Mounting: Four 0.328" (8.2 mm) diameter holes on 4.12" (104.8 mm) x 2.00" (50.8 mm) centers, both mounting plates	5.1	Cleaning: Unit will not be damaged if exposed to steam or spray cleaning.
2.7	Operating Temperature: -40°F to +170°F (-40°C to +77°C)	5.2	UL Recognized: File AU2363
<b>3.0</b>	<b>ELECTRICAL SPECIFICATIONS</b>		Selection and installation of an alarm should meet the requirements of SAE J1446 MAY 1989 "ON-MACHINE ALARM TEST AND EVALUATION PROCEDURE FOR CONSTRUCTION AND GENERAL PURPOSE INDUSTRIAL MACHINERY", and all applicable codes. Operation of the vehicle in noisy environments may require an alarm that is louder than indicated in SAE J1446 MAY 89. Install an alarm that will be audible on the noisiest job site the vehicle will be used on. Ground guidance should be provided to clear backing vehicles when the audibility of the alarm is in question.
3.1	Minimum voltage: 9.8 volts DC		
3.2	Maximum voltage: 57.6 volts DC		
3.3	System voltages: 12 to 48 volt systems		
3.4	Input current: 0.25 amps average		
3.5	Fuse at: 0.5 amp		
3.6	Spike protection: +100, -400 volts		
3.7	Polarity: Positive or negative ground, polarity protected		
3.8	Connection: Two #8-32 UNC terminal studs		

## B. INSTALLATION

Since this alarm is designed to concentrate its audible warning in the target hazard area it should be mounted approximately 4 ft. above ground level with the sound opening facing to the rear of the vehicle.

- Select a mounting location at the rear of the vehicle that will provide protection from impact, debris and adverse weather conditions while allowing unobstructed sound projection to the target hazard area. The alarm's "L-type" mounting configuration provides mounting flexibility and allows installation in a variety of locations.  
**NOTE: The alarm mounting surface must be metal to comply with UL recognition requirements.**
- See figure 1. Using the alarm housing as a template, scribe drill position marks through the mounting holes in the unit. Drill holes at the position marks.
- Secure the unit on the vehicle with a minimum of four user-supplied 5/16" bolts and locknuts, or bolts, lockwashers, and nuts.
- Use 18 gage (minimum) wire and a fuse to electrically connect the alarm as shown in the Simplified Wiring Diagram, Figure 1. Use of the vehicle Motor Reversing Circuitry on Electric Powered Vehicles to activate the alarm is **NOT** recommended.  
**NOTE: The wiring on some electric powered vehicles is not grounded to the vehicle chassis.**
- Affix the Warning Label provided to the dash board of the vehicle in plain view of the operator and test the Alarm for proper operation.

### WARNING

The ground connection **MUST** be a dependable ground path for as long as the device is to be used. Route wire in a protected fashion in accordance with vehicle manufacturer recommendations.

NOTE: The Back-Up Alarm is sensitive to polarity and will not operate when connected backwards.

## SAFETY MESSAGE TO OPERATORS OF BACK-UP ALARMS

Should the alarm become inoperative, it could jeopardize the safety or lives of those who depend on the alarm signal for safety.

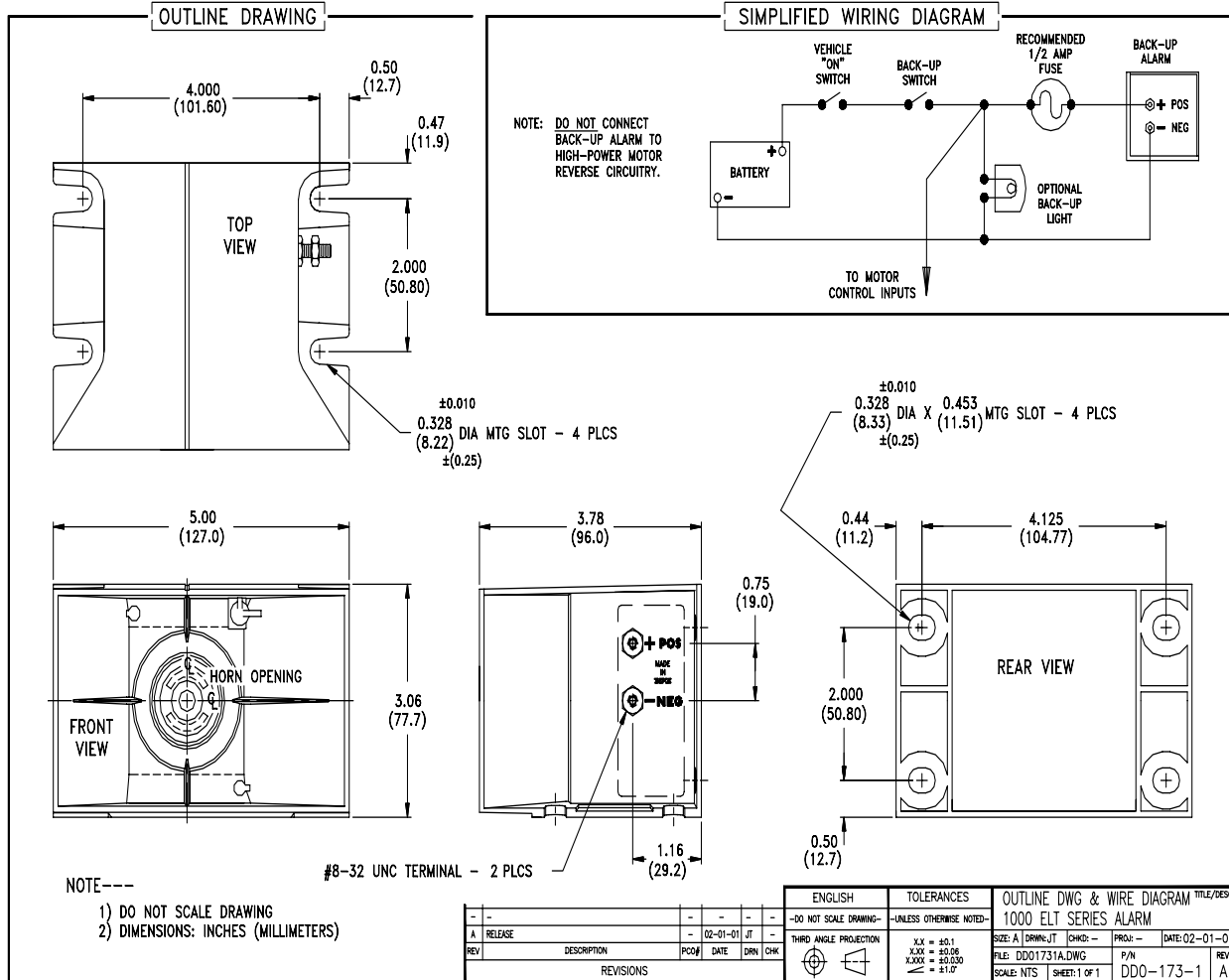
Testing the Back-Up Alarm should be listed on the daily maintenance report. The units on operating vehicles must be tested each day prior to the vehicle's operation. Results of this test must be recorded in the maintenance log.

Notify your supervisor that people operating this equipment **MUST** check for proper operation at the beginning of every shift.

### C. MAINTENANCE

Alarm should be inspected and the sound opening kept clear of dust, mud, or other foreign material that may obstruct the sound opening.

### D. FIGURE 1 - OUTLINE DRAWING AND WIRING DIAGRAM



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Manufacturer warrants that on the Date of Purchase this Product will conform to Manufacturer's published specifications for the product, which are available from Manufacturer on request, and Manufacturer warrants that the product is free from defects in materials and workmanship. This Limited Warranty extends for twelve (12) months from the date of manufacture. Manufacturer will, at its option, repair or replace any product found by Manufacturer to be defective and subject to this Limited Warranty.

This Limited Warranty does not apply to parts or products that are misused; abused; modified; damaged by accident, fire or other hazard; improperly installed or operated; or not maintained in accordance with the maintenance procedures set forth in Manufacturer's Installation and Operating Instructions.

To obtain warranty service, you must ship the product(s) to the specified Manufacturer location within thirty (30) days from expiration of the warranty period. You must fill out the warranty claim form and include the form with the product. You must prepay shipping charges and use the original shipping container or equivalent. Return shipping charges within the United States, Canada, and Puerto Rico will be paid by Manufacturer. This Limited Warranty will apply only to a product purchased and located in the United States, Canada, or Puerto Rico.

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