

WATCHDOG-B120 TIMER

INSTALLATION AND OPERATION MANUAL



IMPORTANT:
Read ALL instructions and warnings before installing and using unit.

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General Warning

1. The use of emergency warning devices does not ensure the safety of the operator. The operator is responsible to ensure safe operation of the vehicle regardless of whether the warning device is in operation or not
2. The effectiveness of this or any warning device is highly dependent on proper installation and maintenance. ***Read the manufactures instructions before installing and follow all recommendations.***
3. When in use the operator must ensure that the warning signal is visible and not obstructed by vehicle components (i.e. open trunk lid), people or other obstructions
4. This device is intended for use by authorized personnel only. The user is responsible to ensure that all local, state/provincial and federal laws are being complied with. The manufacturer assumes no liability for any loss resulting from the use of this device.
5. The device must be installed so as not to reduce the output performance of vehicle systems
6. Placement of control switches must be so as to provide convenient reach for the operator without losing eye contact with the road.
7. Emergency warning devices require high electrical voltages and/or currents. Properly connect and ground all circuits. Shorting or improper grounding of this device may caused personal injuring, vehicle damage or both
8. ***All operators should be properly trained in the operation of this device to ensure both their and public safety***

INTRODUCTION

The WATCHDOG unit is used to prevent excessive discharge to the car battery by the connected equipment (while the car's ignition is off), thus increasing the life of the car battery. This unit has 3 wires and 2 high current lugs; connections to these are described in detail in this manual. There are 4 user settable timing switches, there is a table in this manual that provides time against switch settings. The factory default is typically all switches **ON=2 hours**, users can set their time by following the switch settings shown in this manual.

This is a sealed unit and is not field serviceable, **NO MAINTENANCE IS REQUIRED**. Because there are user selectable settings the unit is not environmentally sealed and we recommend installing this unit inside the vehicle away from excessive moisture and heat.

Unpacking & Pre-Installation Check

D&R Electronics Co. advises that you open and examine all shipments within **48 hours of receipt**. The *Watchdog Timer* is shipped pre-assembled, sealed and factory tested. All necessary hardware for standard installation is included. Remove all components from the shipping carton.

Use this pre-installation check list to verify your unit:

1. Confirm contents with the packing slip
2. Examine unit for in transit damage (i.e. broken or bent connectors. etc). Report any damage to the carrier immediately. Keep all shipping material
3. The unit is factory tested and a pre-installation check is not needed.

Installation and Mounting

Warning

1. Any device used inside a vehicle, may cause severe personal injury if not properly mounted and secured. Objects used in the vehicle may become airborne during a collision or other sudden changes in vehicle speed or direction, such as braking, acceleration or turns.
2. Be sure to mount unit through the steel of the vehicle. Avoid mounting through plastic or other non-structural materials.
3. **POINT OF INSTALLATION MUST NOT INTERFERE WITH DEPLOYMENT OF VEHICLE AIR BAGS.**
4. **The manufacturer recommends this or any other automotive products be installed by qualified professionals.**

Mounting the Watchdog Timer

The *Watchdog timer* may be mounted anywhere inside the vehicle away from excessive heat, moisture or the elements. **NOTE this unit is not watertight** do not mount it in the engine compartment or on the exterior of the vehicle.

1. Ensure that mounting location is flat and the device is secured to solid vehicle body parts

To mount the *Watchdog Timer* proceed as follows:

1. Determine an appropriate mounting location
2. Confirm there is adequate access and clearance for the wiring and its connections.
3. Secure the *Watchdog Timer* with the 2 self tapping mounting screws supplied.

Warning

1. Good wiring practice and thorough knowledge of vehicle power system is required By the installer of this and any other product.
2. Looms, grommet, cable ties or other installation hardware should be used to anchor and protect wires
3. All wire should conform to the minimum wire size as specified by the manufacturer.
4. Splices should be minimized and made in a fashion so as to protect from corrosion to reduce loss of conductivity.

Wiring and Setup Instructions

Wiring information

IN (+12V) High Current Terminal 6 or 8 AWG - Connected to the positive terminal of the battery Via a 100A fusible link or circuit breaker

OUT (LOAD) High Current Terminal 6 or 8 AWG - Connected to the load

Black 18 AWG GND Wire - Connected to vehicle chassis

White 18 AWG CAR IGN Wire - Connected to ignition

Red 18 AWG Wire - MUST BE connected directly to the positive terminal of the battery through a 2A fuse (for added safety). **This wire must not be used to supply power to any other equipment it is the power and battery sense wire for the Watchdog Timer.**

See Page 6 for a typical wiring diagram.

Modes of Operation:

Battery Voltage:

- A) **Between 13 to 18V** the output of the Watchdog will be **ON unconditionally**.
- B) If the battery voltage drops **below 13V** and the **ignition is OFF**, the watchdog will commence a predetermined countdown delay at the end of which the unit will shut-off and go into “STANDBY” mode. This delay is set by the 4 DIP switches on the watchdog, **THE FACTORY DEFAULT TIMER IS TO 2 HOURS. Check and set this accordingly.**
- C) If the battery voltage recovers and is raised above 13V (i.e.. the battery is being charged) the countdown process will cease and the Watchdog will go into “ON” mode

Ignition:

- A) If the ignition switch is OFF and the unit is in countdown mode, cycling the ignition switch ON/OFF will reset the countdown. Always at the end of the countdown the Watchdog will be in “STANDBY” mode.
- B) The ignition switch “ON” will always reset the countdown and prevent it from timing down (override countdown mode and keep the watchdog ON).

Override:

The override circuit can be triggered by the PB (push button) momentary on switch on the Watchdog. Triggering the override will send the unit into “ON” mode for two minutes regardless of the operating mode, or battery voltage (providing battery is still OK and not completely dead and the ignition is off).

Standby:

Once the watchdog is in STANDBY mode, the only way for the system to come out of STANDBY is;

- A) Override Switch is pressed
- B) Battery is charging and the battery voltage is over 13V.
- C) Ignition switch is switched ON.

LED Indicator:

The LED indicator shows the mode or status by the following indications;

- A) **STANDBY** – LED blinking at the rate of **10% ON 90% OFF**.
- B) **ON** - LED **ON solid**
- C) **COUNTDOWN** - LED blinking at the rate of **90% ON 10% OFF**

PRODUCT SPECIFICATIONS

General

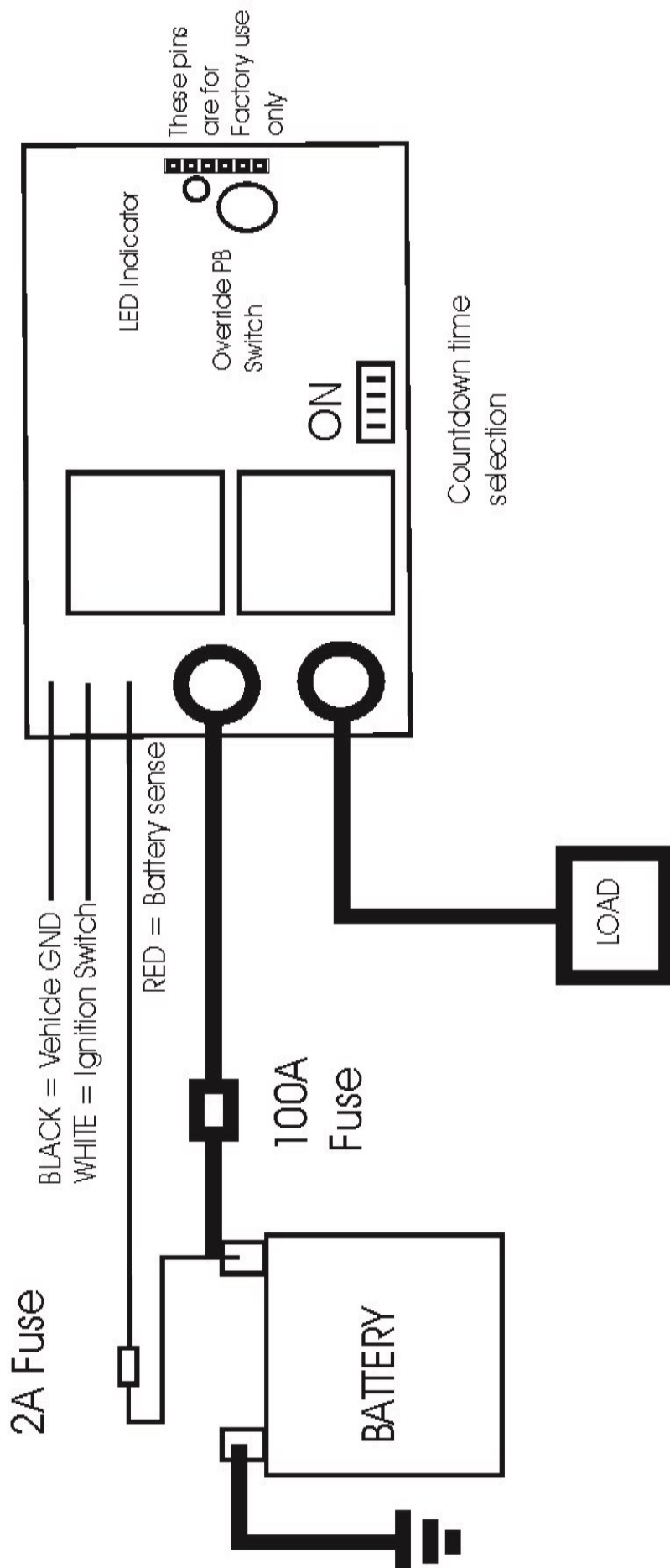
Operating Voltage.....	9V - 18V
Low Voltage Disconnect.....	11.5V *
High Voltage Disconnect.....	18V
Stand-by Current.....	8 mA
Operating Current	350 mA +LOAD
Max. Load Current	100A (with correct gauge wire)
Min. Time Delay.....	2 min.
Override Time Delay	2 min.
Selectable Time Delay.....	2 min. - 13 hrs.

*** NOTE:**

Voltage disconnect (threshold voltage) is where the watchdog takes action. The operating voltage is the range where watchdog monitoring circuit operates regardless of the action taken by the watchdog.

CAUTION:

Maximum load current is limited by the wire gauge used to connect the input and load to the watchdog timer.



Wiring Diagram

Dip Switch Settings

TIME	SW-1	SW-2	SW-3	SW-4
2 MIN.	ON	ON	ON	ON
10 MIN.	OFF	ON	ON	ON
30 MIN.	ON	OFF	ON	ON
1 HR.	OFF	OFF	ON	ON
2 HR.	ON	ON	OFF	ON
3 HR.	OFF	ON	OFF	ON
4 HR.	ON	OFF	OFF	ON
5 HR.	OFF	OFF	OFF	ON
6 HR.	OFF	OFF	OFF	ON
7 HR.	OFF	ON	ON	OFF
8 HR.	ON	OFF	ON	OFF
9 HR.	OFF	OFF	ON	OFF
10 HR.	ON	ON	OFF	OFF
11 HR.	OFF	ON	OFF	OFF
12 HR.	ON	OFF	OFF	OFF
13 HR.	OFF	OFF	OFF	OFF

PARTS LIST

The following replacement parts and accessories are available for the WATCHDOG.

<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>NOTES</u>
WATCHDOG-B120 620-0007-02-03	1	Watchdog-B120 Unit Battery Protector	
401-0013	2	Self Drill Screws, 8 × 3/4"	

WARRANTY

D & R Electronics warrants its new products to be free from defects in material and workmanship, under normal use and service for a period of one year on parts replacement.

This warranty applies only to original purchasers acquiring the product directly from D&R Electronics, or its authorized dealers. Warranty will not be recognized without proof of purchase or bill of sale.

This warranty is not transferable.

The warranty begins on the date of delivery to the first user/purchaser.

This warranty shall not apply to products which must be repaired due to normal wear and tear, negligence, improper installation, abuse, misuse, or which have been altered or modified at a facility other than D & R Electronics, or its authorized depot centers.

Units proved to be defective within the warranty period, based on an examination by D&R Electronics, will be replaced or repaired at D & R Electronics' option.

This warranty does not cover travel expenses or labor charges for removal or installation.

Lamps, flash tubes, batteries or other items considered consumables are not covered under warranty.

This warranty is in lieu of all other express warranties. D&R Electronics makes no warranties, expressed or implied, other than the express warranties contained herein.

PRODUCT RETURN POLICY

In order to provide you with faster service, product returns for repair or replacement, must have a **Return Goods Authorization Number (RGA number)**. Please contact our company to obtain a RGA number before you return the product to D&R ELECTRONICS. Write the RGA number clearly on the package. Be sure you use sufficient packing materials to avoid damage to the product being returned while in transit.

D & R ELECTRONICS assumes no responsibility or liability for expenses incurred for the removal and/or the installation of products requiring service and/or repair. Repairing or replacing product is at the discretion of D & R ELECTRONICS.

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