



Larson Electronics LLC www.LarsonElectronics.com sales@larsonelectronics.com
9419 E US HWY 175, Kemp, TX 75143 - P: (800) 369-6671 - F: (903) 498-3364

LEDB-VS9

Important: Read all instructions and warnings before installing and using.

INTRODUCTION

This LED strobe light represents the latest in state-of-the-art LED warning technology. The latest in MOFSET technology and advanced design provide efficient operation, superior performance, reliability and long life. The use of microprocessor control allows the LEDB-VS9 to offer more light pattern options and versatility than any other remote system available. The user may select Quad, Triple, Double, Single, Active Flash, Variable Flash, Double-Double or Triple Flash Patterns.

FEATURES

The LEDB-VS9 LED light is available in a single unit package complete with installation instructions, mounting hardware and gasket. Multiple lights can be connected together and operated from the same control switch. These strobe lights feature 12 and 24 volt DC operation, reverse polarity protection, and multiple user selectable flash patterns.

NOTE: A user supplied fuse must be installed in series with the red wire. Install the fuse near the power source. The fuse should be sized to the nearest standard size fuse that is approximately 125% of the combined total current of all strobe lights installed on the circuit. As an example, two LEDB-VS9 should be fused at 3A for 12 VDC operation, 1A for 24V operation.

WARNING: The use of this or any warning device does not insure that all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, or walking on or around traffic lanes. The effectiveness of this warning device is highly dependent upon correct mounting and wiring. Read and follow instructions before installing or using this device. The vehicle operator should insure daily that all features of the device operate correctly. In use, the vehicle operator should insure the projection of the warning signal is not blocked by vehicle components (i.e. open trunks or compartment doors), people, vehicles, or other obstructions. This equipment is intended for use by authorized personnel only. It is the user's responsibility to understand and obey all laws regarding emergency warning devices. The user should check all applicable city, state and federal laws and regulations. Larson Electronics assumes no liability of any loss resulting from the use of this warning device. Proper installation is vital to the performance of this warning device and the safe operation of the emergency vehicle. It is important to recognize that the operator of the emergency vehicle is under psychological and physiological stress caused by the emergency situation. The warning device should be installed in such a manner as to: A) Not reduce the output performance of the system, B) Place the controls within convenient reach of the operator so that one can operate the system without losing eye contact with the roadway. Emergency warning devices often require high electrical voltages and/or currents. Properly protect and use caution around live electrical connections. Grounding or shorting of electrical connections can cause high current arcing, which can cause



Larson Electronics LLC www.LarsonElectronics.com sales@larsonelectronics.com

9419 E US HWY 175, Kemp, TX 75143 - P: (800) 369-6671 - F: (903) 498-3364

personal injury and/or severe vehicle damage, including fire. Do not touch the strobe light tubes, the strobe light head assemblies or the strobe power supply while the system is in operation. Wait 10 minutes after turning off the power from system before touching any internal componentry. Proper installation combined with operator training in the proper use of emergency warning devices is essential to insure the safety of emergency personnel and the public.

INSTALLATION

Remove the product from the box and examine the unit for any shipping damage. Report any damages to Larson Electronics immediately.

1. First, carefully plan the installation so that the unit will not interfere with the mounting or operation of the vehicle's exiting lights. Using a 1 inch hole saw, cut a hole in the vehicle's light fixture in a location that will allow the light to be mounted in such a way that it will provide maximum light inside the reflector.

WIRING

1. Install the LED light heads in the desired locations.
2. Route the cables between the light heads and the control switch panel. Make sure the cable is secure along the chosen routing inside the vehicle to prevent damage by chafing or binding. Be sure to keep the cables away from engine hot spots.
3. Secure the cables and the strobe lights flasher module using plastic wire ties.
4. For synchronized operation of multiple lights, the yellow wires from each unit's cable must be connected together. Insulate this connection using an insulated butt splice to prevent accidental contact with power or ground.

Connections:

Red	+Power (10-30VDC)	Black	Ground
Yellow	Synchronization	Blue	Pattern Selection

WARNING: The strobe light components are water resistant but NOT waterproof and should be located in an area protected from the weather and water.

Important: To extend the power (+) and ground (-) wires, use the following as a guide.

1 to 10 ft. use 20AWG wire

10 to 50 ft. use 18AWG wire

Pattern Selection Timing

Time	Function
0-1 Seconds	Next Pattern/On
1-3 Seconds	Previous Pattern
3-5 Seconds	Restore Factory Default Pattern (see flash pattern table)
>5 Seconds	Off



Larson Electronics LLC www.LarsonElectronics.com sales@larsonelectronics.com
9419 E US HWY 175, Kemp, TX 75143 - P: (800) 369-6671 - F: (903) 498-3364

Flash Pattern Selection

Any one of the 30 Flash Patterns may be selected by using the blue wire to scroll through the patterns. Touch the blue wire to ground for about 1 second and then remove it. The flash pattern will switch to the next pattern. When the yellow wires (SYNC) from each light are connected, lights with Phase 1 patterns selected will flash in an alternating sequence with lights that have a Phase 2 pattern selected. The following patterns are available:

Description	Phase
1. 75FPM Single Flash sim. Phase 1	Sim.
2. 75FPM Single Flash sim. Phase 2	Sim.
3. 75FPM Single Flash Alt.	Alt.
4. 150FPM Single Flash All sim. Phase 1	Sim.
5. 150FPM Single Flash All sim. Phase 2	Sim.
6. 150FPM Single Flash Alt.	Alt.
7. 75FPM Double Flash sim. Phase 1	Sim.
8. 75FPM Double Flash sim. Phase 2	Sim.
9. 75FPM Double Flash Alt.	Alt.
10. 150FPM Double Flash sim. Phase 1	Sim.
11. 150FPM Double Flash sim. Phase 2	Sim.
12. 150FPM Double Flash Alt.	Alt.
13. 75FPM Quad Flash sim. Phase 1 (factory default)	Sim.
14. 75FPM Quad Flash sim. Phase 2	Sim.
15. 75FPM Quad Flash Alt.	Alt.
16. 150FPM Quad Flash sim. Phase 1	Sim.
17. 150FPM Quad Flash sim. Phase 2	Sim.
18. 150FPM Quad Flash Alt.	Alt.
19. 75FPM TripleAlter sim. Phase 1	Sim.
20. 75FPM TripleAlter sim. Phase 2	Sim.
21. 75FPM TripleAlter Alt.	Alt.
22. 150FPM TripleAlter sim. Phase 1	Sim.
23. 150FPM TripleAlter sim. Phase 2	Sim.
24. 150FPM TripleAlter Alt.	Alt.
25. Steady Burn	Sim.
26. Variflash sim.	Sim.
27. 2 Double Flash, 2 TripleAlter sim.	Sim.
28. 4 Single Flash, 2 Quad sim.	Sim.
29. Sequential Back and Forth	Sim.
30. Off	-

1. Connect the Power/Control wire harness assembly to a switch. To select one of the 30 different flash functions, turn the light on and touch the bare end of the blue wire to ground for about one second. You can also scroll backward through the flash pattern table (see the PATTERN SELECTION TIMING for complete details). Repeat this process until you reach the desired flash pattern. After you have selected the desired flash pattern, you should cover the bare end of the



Larson Electronics LLC www.LarsonElectronics.com sales@larsonelectronics.com

9419 E US HWY 175, Kemp, TX 75143 - P: (800) 369-6671 - F: (903) 498-3364

blue wire with heat shrinkable tubing to prevent an accidental pattern change or short circuit.

The flash pattern may also be selected remotely by the operator by connecting the blue wire to the ground through a Normally Open (NO) Momentary Push Button Switch. For synchronized simultaneous flashing, set all LED lights to a Phase 1 flash pattern. For synchronized – alternating flashing, set a Phase 1 pattern on one light and Phase 2 pattern on the other unit. The factory default flash pattern may be restored by holding the blue wire to ground 3-5 seconds.

MAINTENANCE

The LEDB-VS9 light has been designed to provide trouble free service. In case of difficulty, refer to the Troubleshooting section. Periodic inspection of product's wiring connections for shorted or open wires will assure trouble free operation. The primary cause of short circuits has been found to be wires passing through firewalls, roofs, etc.

TROUBLESHOOTING

Note: Do not tamper with the LED or flasher modules. This product is sold as a complete system, and is not designed for field repair. Any attempt to disassemble the product will void the warranty.

All LEDB-VS9 lights are thoroughly tested before shipping. However, should you encounter a problem during installation or during the life of the product, refer to the guide below for information on troubleshooting. In most cases problems that occur will be related either to the power/control wiring.

Problem		Solution
External fuse blows	1. Power input wires shorted 2. Incorrect fuse size 3. Flasher Module Failed	1. Check power connections 2. Replace with correct Size fuse 3. Return for service
Light heads do not flash	1. Wire connections loose at switch panel or power source 2. Cable to light heads damaged and shorting to chassis 3. Flash pattern is set to OFF	1. Check all connections 2. Isolate damaged cable by disconnecting and reconnecting outputs one at a time. Repair the damaged cable. 3. Select valid flashing pattern
Incorrect flash pattern	1. Wrong flash pattern is selected	1. See FLASH PATTERN SELECTION
Flash patterns change continuously	1. Unit is in CYCLE FLASH mode. Proper Operation	1. This is normal operation for this mode. If CYCLE FLASH MODE is not desired see FLASH PATTERN SELECTION