



Installation and User Guide

Included:

- Installation Instructions
- Operation Instructions





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NOTICE

The Night Ops system is intended for use by Law Enforcement and Governmental agencies ONLY. We strongly suggest that you abide by local state and federal laws/regulations in regards to the use of this product. 836 Technologies will not be held liable for injuries and/or damages resulting from use of this product. For further information or questions, please contact us.



System Overview

Police Officers know the importance of approaching calls in-progress without being detected. This is done for officer safety reasons and to catch criminals. During hours of darkness, officers are able to turn off their headlights and use that darkness for a tactical advantage when making their approach. That is, until they



tap their brakes and the entire street is illuminated by the red glow of the brake lights. The Night Ops Blackout System by 836 Technologies is the solution by temporarily and correctly disabling the brake lights on your patrol vehicle with a touch of a button.

Vehicle Blackout Systems

Years ago blackout circuits were common place in Law Enforcement vehicles. Most were simple improvised toggle switch circuits, which interrupted the power to the brake lights when turned on. An LED was often employed, mounted somewhere on the dashboard to indicate that the brake lights were disabled. The intensity of the LED was turned down, so as not to light up the interior of the vehicle during night operation. The toned down LED was barely visible during daylight hours. If not toned down, the LED was too bright at night.

Another problem with “home brew” blackout systems was the way the installer chose to disrupt the brake lights. The installer would often insert the switch so as to interrupt power at the brake pedal. This caused problems with the PARK interlock on the steering column, making it impossible to get the vehicle out of park when activated. It also disrupted the vehicles computer system by not indicating when the driver was braking.

Unfortunately these systems, which were often left on during daylight hours and often installed improperly, led to the unfortunate downfall of blackout systems. Departments saw this valuable patrol technique as a liability and eventually it disappeared from the tool belt of Law Enforcement.



Why the Night Ops system?

The Night Ops system from 836 Technologies provides officers with the ability to safely and effectively disable the brake lights and back-up lights of their patrol vehicles. The system is automated and cannot be activated unless conditions are right. There is no way for the system to operate unless the driver specifically wants it to. The system can be installed into nearly any vehicle.

System Advantages

- Allows for a tactical approach to calls.
- Apprehend more criminals.
- Greatly reduces the risk of liability for your department.
- Cost effective for your entire fleet.
- Easy to install.

Reduce Departmental Liability

- System will not activate in daylight.
- Automatic deactivation once the headlights are turned on.
- Automatic deactivation 30 seconds after the engine is turned off.
- Three intensity level LED indicator and audible alerts notify you of system status.
- Fail safe design returns the system to normal (lights on) mode in the event of failure.
- No risk of affecting braking performance or PARK lock.



Installation:

The Night Ops system is made up of four (4) parts:



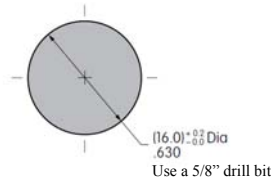
The Controller Unit is the heart of the system. It contains a microcontroller which handles all system automation. This unit needs to be mounted on the vehicle dashboard where it will have an unimpeded view of the ambient daylight. A female CAT5 type modular port allows for a quick connection to the wire harness.



The Interrupter Unit is designed to be mounted out of sight; typically in the trunk of the vehicle. It contains a normally closed 4 pole relay which is used to disconnect the power to four lighting circuits (Left Brake light / Right Brake Light / Rear Window Brake Light / Back-up Lights). The four circuits (A,B,C,D) are flexible and can be used any order desired. The maximum current through each circuit should not exceed 2 Amperes. The Interrupter Unit is NOT weatherproof! Be sure to mount it in the trunk or cab of the vehicle.

The Control Switch is a highly durable illuminated momentary push switch. It will illuminate in blue light to announce the status of the system. The light intensity is controlled automatically by the controller unit and is based on the ambient light levels. This switch can be mounted anywhere inside the vehicle. However, in a Police Interceptor (Crown Vic) it is best suited to be mounted in the dashboard directly under the headlight switch. A mounting hole must be drilled for the switch:

Panel Thickness
.020" ~ .197"
(0.5mm ~ 5.0mm)

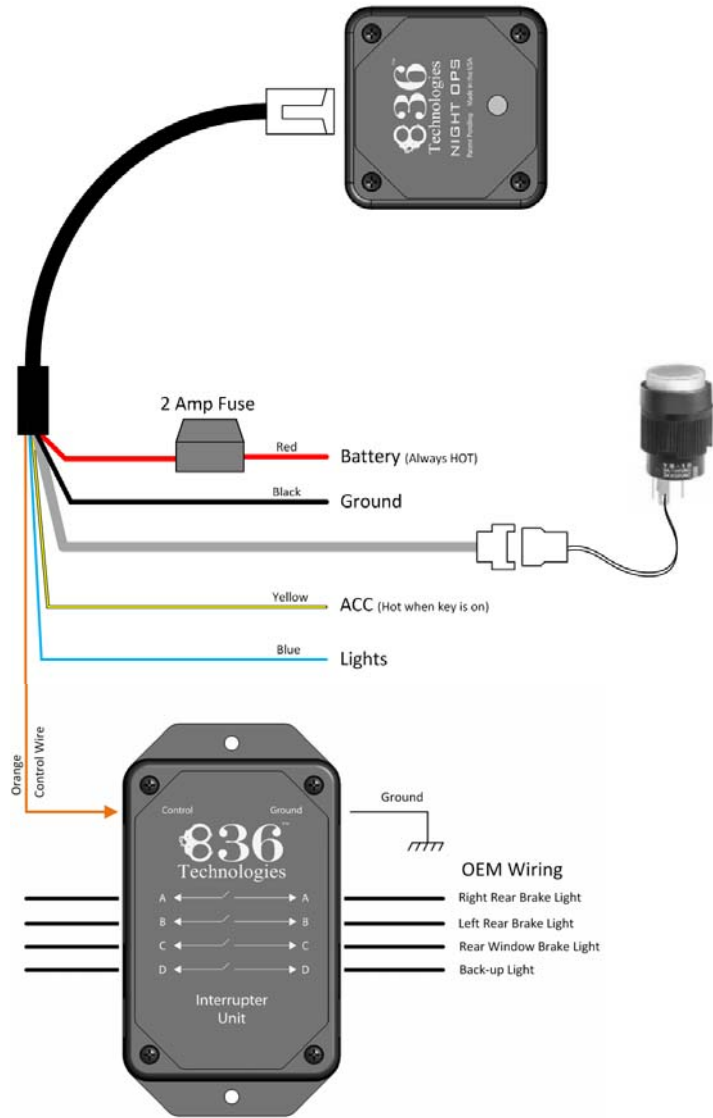


The additional use of an adhesive is recommended to secure the Control Switch. Silicone or hot melt glue will suffice if necessary.

The Wire Harness connects all the components together. It contains an in-line 2 Amp fuse which protects the complete system.



The Night Ops system installs easily into nearly any vehicle.





Wire Descriptions:

RED: Positive power source. Connect to the positive side of the 12 Vdc battery. This line should always be connected (uninterrupted). The wire contains an in-line 2 Amp ATC blade type fuse.

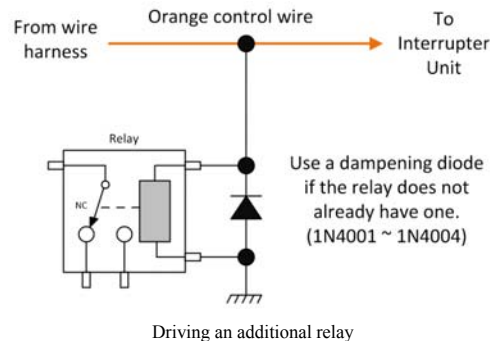
BLACK: Main system ground. Be sure this is securely attached the vehicles ground plain.

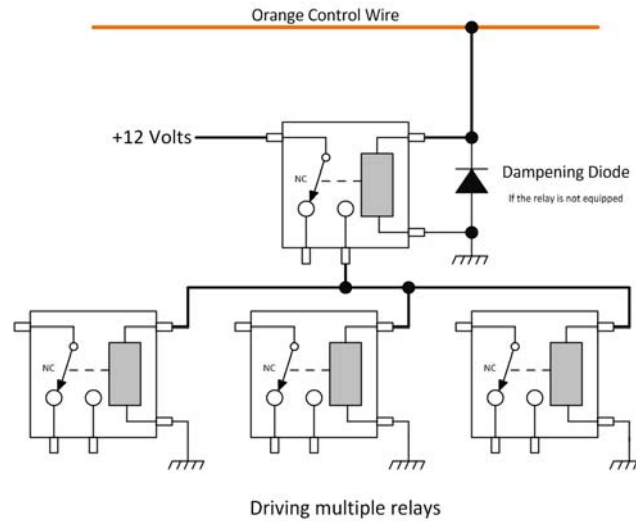
YELLOW: Attach to the vehicle's accessory circuit. This wire should have +12 Vdc applied whenever the ignition key is on. This wire is a sensing wire and draws less that 1 mA.

BLUE: Attach this wire to the vehicle's parking light circuit. It should have +12 Vdc applied any time the vehicle's parking lights are turned on. This wire is a sensing wire and draws less that 1 mA.

ORANGE: Control Wire. This is the only wire that connects the Interrupter Unit to the Controller Unit. This wire will be energized to +12 Vdc when the Night Ops system is activated. It is capable of supplying up to 1.0 Amp. An additional relay may be attached to drive (or disrupt) additional circuits as long as the relay is equipped with a dampening (clamp) diode. To drive multiple relays, drive them off a primary relay. Refer to diagrams below for adding additional relays.

OEM Wiring: The Interrupter Unit has four pass-through circuits labeled A through B. These circuits are normally closed and will open when the system is activated. It will be necessary to locate the vehicle's rear light wiring harness and identify the wires which need to be interrupted. This manual does not attempt to identify every vehicle manufacture's wire location and color scheme. You should attempt to locate these wires and disrupt them as close to the actual lamp as possible.





Installation Reference - Mounting Locations

Controller Unit

The Controller Unit must be installed on the dashboard of the vehicle. The unit contains a small light intensity detector which should always be exposed to the ambient light. The Controller Unit also contains an audible buzzer, which sounds to alert status. The Controller unit is supplied with double sided sticky tape, which is used to adhere the unit to the dashboard.

Control Switch (button)

The Control Switch is connected to the wire harness via a 3 pin mini in-line connector. The switch can be mounted anywhere within the driver's reach. The switch contains a blue LED, which is controlled by the Controller Unit and will illuminate at 3 different intensity levels.

Interrupter Unit

The Interrupter Unit should be mounted in the rear of the vehicle, as close to the actual lights as possible. The orange control wire is extended to reach the interrupter unit. **Care should be taken to tie down all wires connected to the Interrupter Unit as to minimize vibration stress on the internal connection pins.**



The Controller Unit



The Control Switch



836 Technologies



Operation:

To activate the system (disable the rear brake lights and backup lights) several conditions must first be met:

- 1) It must be dark outside. If the button is pressed while light outside, the button will flash several times (high brightness) and the control unit will beep several times. It will not activate.
- 2) The vehicle's lights must be off. If the button is pressed while the lights are on, the button will flash several times (low brightness if dark outside) and the control unit will beep several times. It will not activate.

If the driver presses the control button while it is dark outside and the vehicle's lights are off, then the system will beep and activate. The control button will illuminate at a very low level and periodically flash off to remind the driver that it is on. Pressing the button again will deactivate the system.

If the driver turns on the lights while the system is activated, the system will beep once and deactivate.

If the system is activate and the ignition key gets switched off, the system will wait 30 seconds then deactivate. It can be switched back on while the key is still off if necessary.

The control button will illuminate (blue light) at three different intensity levels depending upon the outside ambient light levels.



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