

# DEFEND IR

SECURITY SYSTEM

425-6560

## Installation Instructions



## THE DEFEND IR SECURITY SYSTEM

This unique product utilizes the OEM vehicle ignition, ties into higher end light/siren controllers from Code 3, Federal Signal, SoundOff Signal and Whelen and features an IR Sensor to detect when a vehicle has been broken into. Nothing is required of the individual officer, deputy or trooper. Simply park as you normally would, lock your vehicle and leave. From that point, the Defend IR takes over.



# OPERATING GUIDE



## ARMING (IGNITION):

When the ignition is turned OFF, the Defend IR looks for movement inside the vehicle. Once the system determines there is no movement, the systems starts a user selectable countdown before arming the Defend IR. This will allow an officer to remain in the vehicle with the ignition turned off as the countdown will not begin until no movement is seen. The length of time is programmable with DIP switches – 3 seconds/60 seconds/90 seconds/120 seconds (**See Time to Arm**). After that time-frame has passed with no movement detected, the Defend IR will arm and RED/BLUE LED's will be visible on the faceplate.



## ACTIVATION:

Upon the Defend IR sensor being tripped by motion, the RED/BLUE LED's will switch to a solid RED and it will beep with increasing frequency. The length of time is programmable utilizing DIP switches – 10 seconds/20 seconds/30 seconds/40 seconds (**See Time to Trigger**). At the end of the chosen length of time – the Defend IR will wake up the light/siren controller and activate the lights and siren.

- If Law Enforcement personnel is the cause of the sensor being tripped – entering the vehicle – then all that they need to do is to start the vehicle within that time window and the Defend IR will be disarmed.

The Defend IR activates two outputs. The first output (OT1) is dedicated for the siren. (OT2) is dedicated for the light bar/emergency lighting. The first output has user selectable timeout so the siren will shut down after a predetermined amount of time with DIP Switches (**See Time to Sound Siren**). The lightbar will remain activated until the Defend IR is re-set by authorized personnel by starting the vehicle. After the set length of time is reached – the siren will turn off and the Defend IR will re-set immediately so that another attempt will turn on the siren again for the same length of time with no delay in the Time to Trigger. Utilizing the software from the various lighting companies, the agency can determine exactly what siren tone they wish to sound from OT1 and which lights to turn on from OT2.



## DISARMING (IGNITION):

Upon returning to and entering the vehicle, the Defend IR will recognize the movement and start beeping for the 10/20/30/40 second “Time to Trigger” warning period before activating the lights/siren. Starting the vehicle within this window will disarm the system. No LED's will be visible once the ignition has been started.

## DISABLE MODE:

From time to time, all vehicles need to spend time outside the control of the Law Enforcement personnel. It might be back at the Fleet Department, Radio Shop, Dealership or Tow Yard. For this reason, a Disable Mode was designed into the Defend IR so that work could be done on a vehicle without the frustration of light/siren activation when not desired.



- With the engine running/ignition on, simply press and hold down the button for 3 seconds. The Defend IR will beep and there will be an AMBER LED displayed. This will allow movement throughout the vehicle with the ignition in the off position like there was no Defend IR being utilized.
- Once the vehicle is back in service, repeat the process of holding down the button for 3 seconds while the engine is running/ignition on. The Defend IR will beep and the AMBER LED will go away.

# TECHNICAL SPECIFICATIONS

Dimensions.....	2" Console Face Plate
Input Voltage .....	9 - 18vDC (negative ground)
Reverse Voltage Protect.....	Yes
Current Draw .....	10 Milliamps (mA)
Input Current A+ .....	3.0 Amps MAX
Input Current IGN .....	3.0 Amps MAS
Operating Temperature.....	0°F to +160°F (-18°C to +71.1°C)
Output OT1 .....	High, 2.5 Amps MAX current load @13.6vDC
Output OT2 .....	High, 2.5 Amps MAX current load @13.6vDC
Output IGO.....	High, 2.5 Amps MAX current load @13.6vDC

# DIP SWITCH SETTINGS

The Defend IR has an 6 position DIP switch that allows users to configure timeouts in firmware. There are three timeouts that can be configured.

## TIME TO ARM

DIP 1	DIP 2	SECONDS
OFF	OFF	03
ON	OFF	60
OFF	ON	90
ON	ON	120

## TIME TO TRIGGER

DIP 3	DIP 4	SECONDS
OFF	OFF	10
ON	OFF	20
OFF	ON	30
ON	ON	40

## TIME TO SOUND SIREN

DIP 5	DIP 6	SECONDS
OFF	OFF	30
ON	OFF	60
OFF	ON	90
ON	ON	120

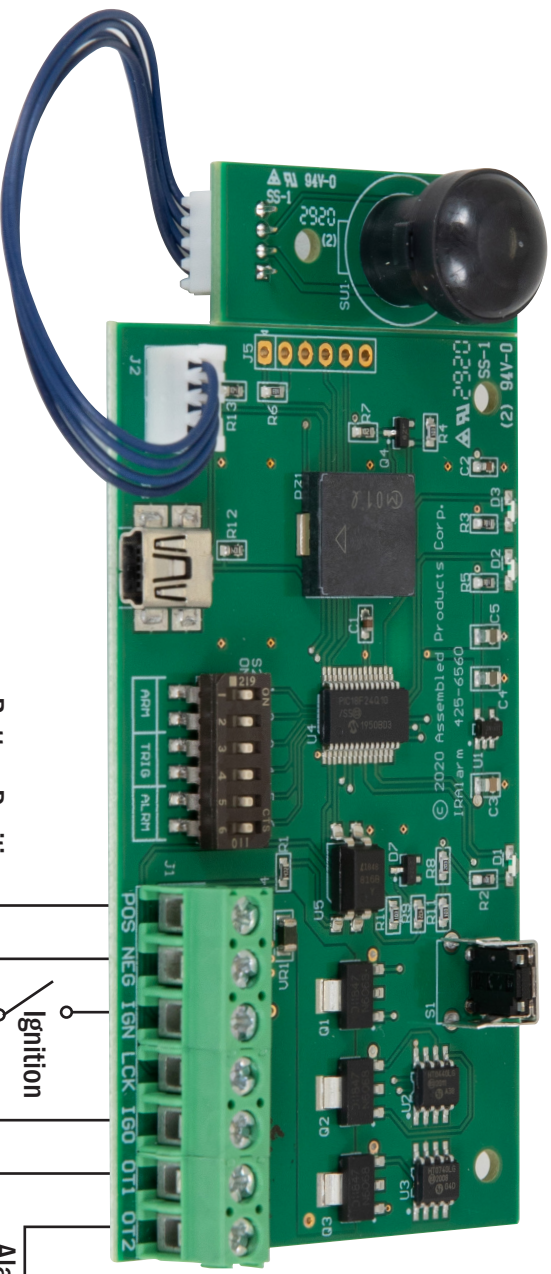
# COMPATIBLE LIGHT/SIREN CONTROLLERS

Code 3 – Z3 Matrix

Federal Signal – Smart Siren Platinum, Pathfinder

SoundOff Signal – nErgy 400 Series

Whelen – CenCom, Control

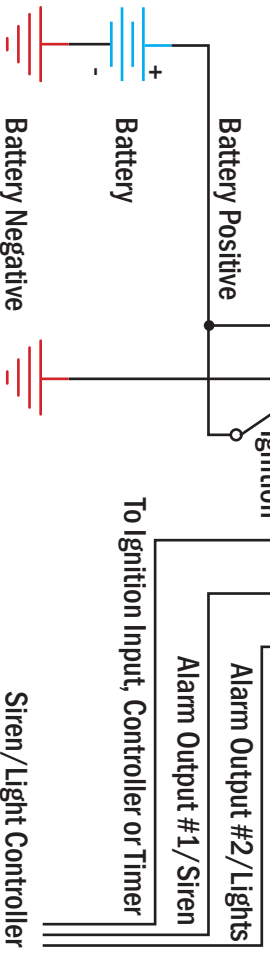


# WIRING GUIDE

Wiring should be 18 AWG, UL 1007-1015 Insulation hookup wire.  
 The 12V+ (Battery) wire should be fused using 5A fuse.

IG0 (Ignition Out) should be fused to whatever specification the controller manufacturer recommends in their installation manual.

**\* IF USING TIMER - DISABLE THRESHOLD**



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