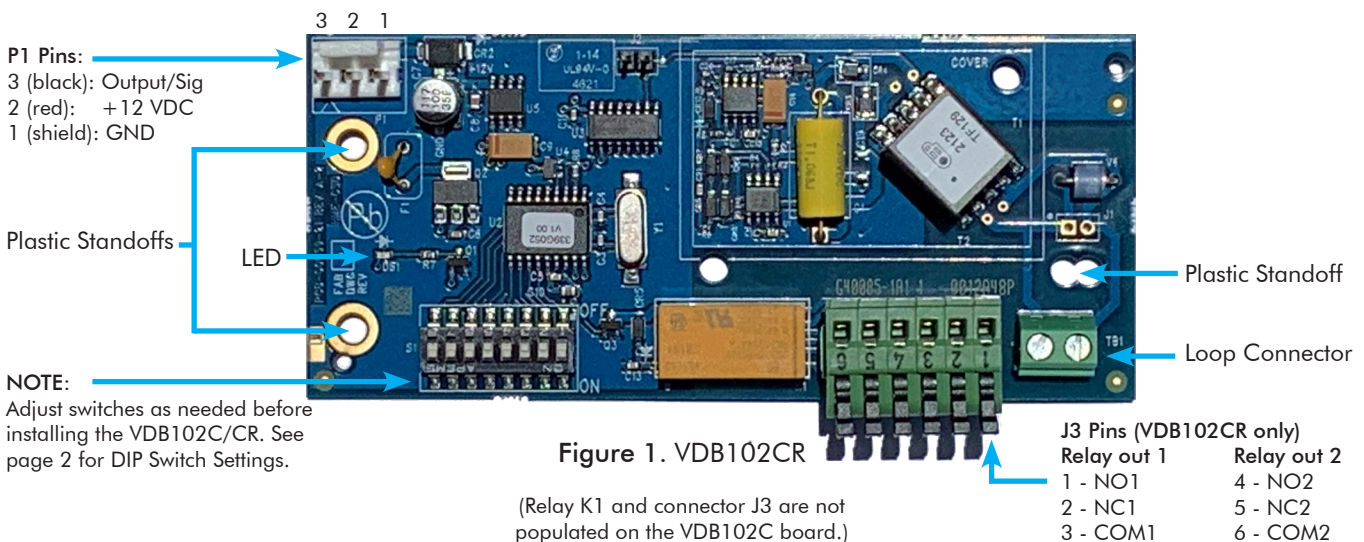


**IMPORTANT:** The following instructions cover the VDB102C and the VDB102CR Vehicle Detector Board. When handling these boards, use proper grounding procedures to avoid electrical damage to the board.

### INSTALLATION

1. Remove the drive-thru audio or timer system power adapter from its electrical outlet.
2. If the VDB102C/VDB102CR will replace an existing VDB101, do a, b, and c below. If not, skip them and go on to the following step.
  - a. Disconnect the loop cable from TB1 on the VDB101.
  - b. Disconnect the VDB101 interconnect cable from its connector on the base station or control unit circuit board. Note the connector and its location.
  - c. Remove the VDB101 by lifting it off the plastic standoffs that hold it in place.
3. Position the VDB102C/VDB102CR over the three plastic standoffs on the base station or control unit circuit board and press it firmly until the standoffs snap through the holes on the VDB102C/VDB102CR. See Figure 1.
4. Connect the loop cable to TB1 at the lower right corner of the VDB102C/VDB102CR. See Figure 1.
5. Connect the VDB102C/VDB102CR interconnect cable to P1 at the upper left corner of the VDB102C/VDB102CR. See Figure 1. Be certain the plastic catches on the cable connector are aligned with the plastic catches on the P1 connector. The color-coded connector wires must also match the pin positions shown in Figure 1 below. Connect the other end of the interconnect cable to the circuit board in the base station or control unit according to installation instructions from the drive-thru audio or timer system. If the installation instructions are not available, call HME at 1-800-848-4468.
6. This step is only for the VDB102CR (for VDB102C, skip to step 7): If any external equipment will be used that requires a vehicle detect signal to operate, connect it to J3, Relay out 1 or Relay out 2, see Figure 1.
7. Reconnect the drive-thru or timer system power adapter to its electrical outlet.
8. Be certain the LED on the VDB102C/VDB102CR is lit when a vehicle is on the loop. If it is not, be certain, that all connections are tight. If it is still not lit, call HME at 1-800-848-4468.

**NOTE:** If it is necessary to change the functions of the VDB102C/VDB102CR, refer to the DIP Switch Settings on page 2 of this sheet. Normally, no changes will be required.



## DIP SWITCH SETTINGS

Before installing the VDB102C/VDB102CR, the following six functions can be set by switching/moving the switches as indicated in Tables A through F below. Refer to Figure 2.

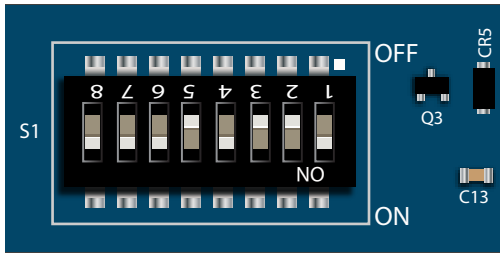


Figure 2. S1 DIP Switch

Switch #1	Vehicle Presence Auto Reset	
OFF	None	
ON	20 Minute *	
Switch #2	Turn-On Sensitivity	
OFF	Normal (2 Hz) *	
ON	Reduced (3 Hz)	
Switch #3	Switch #4	Turn-Off Threshold
OFF	OFF	Extra Low (15%)
ON	OFF	Low (25%)
OFF	ON	Normal (35%) *
ON	ON	High (40%)
Switch #5	Vehicle Present Switching Test	
OFF	Diagnostic off, normal operation *	
ON	Diagnostic on, 10 sec on, 10 sec off	
Switch #6	Switch #7	Output Delay
OFF	OFF	6 second
ON	OFF	4 second
OFF	ON	2 second
ON	ON	None *
Switch #8	Output Pulse	
OFF	0.5 second	
ON	Steady (no pulse) *	

Tables A - F

\* Factory Setting

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## SELF DIAGNOSTICS

If an abnormal condition with the loop or oscillator occurs, the LED will indicate one of the following conditions (see Table G). There is no Vehicle-Present signal generated during the self-diagnostics.

Problem	LED Blink Rate
No oscillator (< 2 kHz) or Shorted loop (< 2 kHz)	1 blink and a pause
Open loop (< 10 kHz)	2 blinks and a pause
Out of range (10-20 kHz)	3 blinks and a pause

Table G

## RESET PROCEDURE

With no vehicle present over the vehicle detector loop, press the reset switch in the base station or timer for 1 second, or unplug the power cable for 1 second. The LED will go on for 3 seconds. Reset is completed when the LED goes off.

## TROUBLESHOOTING

Turn-On Sensitivity:

- Set to Reduced (3 Hz) to help prevent false turn-on when the frequency drifts or varies due to a bad loop.

Turn-Off Threshold:

- Set to High (40%) if run-on between cars occurs at Normal (35%).
- Set to Extra Low (15%) or Low (25%) to compensate for improperly positioned loops.
- Set for the highest percentage possible. Check for run-on or dropouts and set for best operation.

## Waste Electrical and Electronic Equipment (WEEE)

The European Union (EU) WEEE Directive (2012/19/EU) places an obligation on producers (manufacturers, distributors and/or retailers) to take-back electronic products at the end of their useful life. The WEEE Directive covers most HME products being sold into the EU as of August 13, 2005. Manufacturers, distributors and retailers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.



## Instructions for Disposal of WEEE by Users in the European Union

The symbol shown below is on the product or on its packaging which indicates that this product was put on the market after August 13, 2005 and must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of the user's waste equipment by handing it over to a designated collection point for the recycling of WEEE. The separate collection and recycling of waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local authority, your household waste disposal service or the seller from whom you purchased the product.