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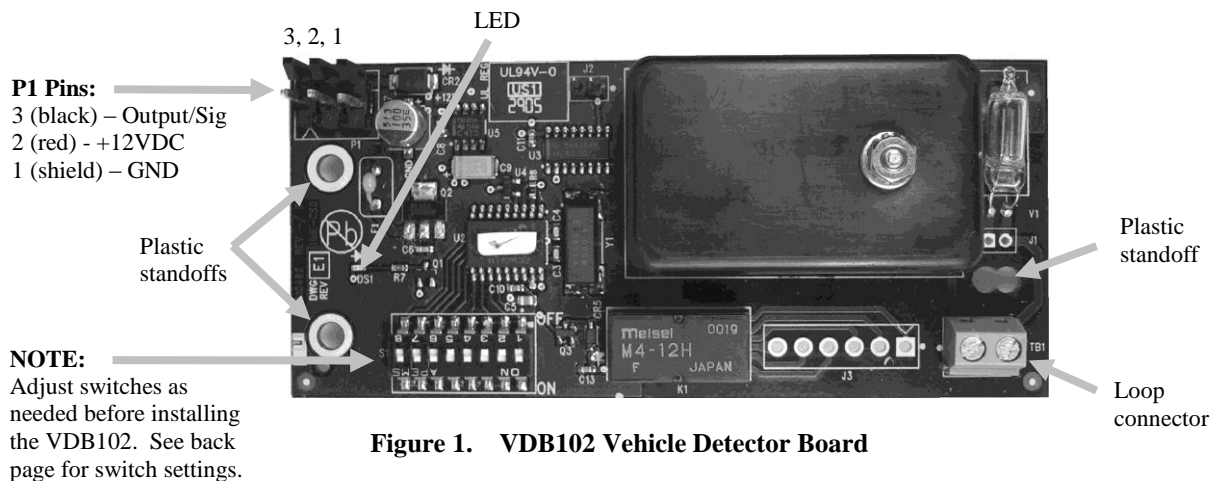
VDB102 Vehicle Detector Board

INSTALLATION INSTRUCTIONS

IMPORTANT! — When handling the VDB102, use proper grounding procedures to avoid electrical damage to the board.

1. INSTALLATION

- Disconnect the drive-thru audio or timer system power adapter from its electrical outlet.
- If the VDB102 will replace an existing VDB101, do 1, 2 and 3 below. If not, skip them and go on to the following step.
 1. Disconnect the loop cable from TB1 on the VDB101.
 2. Disconnect the VDB101 interconnect cable from its connector on the base station or control unit circuit board. Note the connector and its location.
 3. Remove the VDB101 by lifting it off the plastic standoffs that hold it in place.
- Position the VDB102 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 VDB102. See Figure 1.
- Connect the loop cable to TB1 at the lower right corner of the VDB102. See Figure 1.
- Connect the VDB102 interconnect cable to P1, at the upper left corner of the VDB102. 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 on 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.
- Reconnect the drive-thru or timer system power adapter to its electrical outlet.
- Be certain the LED on the VDB102 is lit when a vehicle is on the loop. If it is not, be certain all connections are tight. If it is still not lit, call HME at 1-800-848-4468.



If it is necessary to change the functions of the VDB102, refer to the DIP switch settings on the back of this sheet. Normally, no changes will be required.

2. DIP SWITCH SETTINGS

Before installing the VDB102, the following six functions can be set by switching/moving the switches as indicated in tables A through F below. Refer to Figure 2.

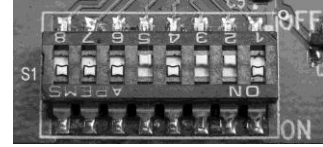


Figure 2. S1 DIP switch on VDB102 circuit board

* = factory setting

Switch #1	Vehicle Presence Auto Reset
OFF	None
ON	20 minute *

Switch #5	Vehicle Present Switching Test
OFF	Diagnostic off, normal operation *
ON	Diagnostic on, 10 sec on, 10 sec off

Switch #2	Turn-On Sensitivity
OFF	Normal (2 Hz) *
ON	Reduced (3 Hz)

Switch #6	Switch #7	Output Delay
OFF	OFF	6 second
ON	OFF	4 second
OFF	ON	2 second
ON	ON	None *

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 #8	Output Pulse
OFF	0.5 second
ON	Steady (no pulse) *

3. SELF DIAGNOSTICS

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

Problem	LED Blink Rate
No oscillator (<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
Shorted loop (>75 KHz)	4 blinks and a pause

4. 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.

5. TROUBLESHOOTING

Turn-On Sensitivity:

- Set to Reduced (3Hz) 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 highest percentage possible. Check for run-on or dropouts and set for best operation.

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.