

### Parts in Box

- Hy5B
- 3 plastic standoffs (use 2, 1 extra)
- Installation Instructions

### Tools Needed

- Wire cutters
- Wire stripper
- Megohmmeter (test the loops)

## Hy5B Installation

To install an Hy5B vehicle detector, you will need to take the following steps:

- Test the vehicle loop.
- To use all the features of Hy5B, update the software version on the gate operator to the latest version using S.T.A.R.T. and a PC laptop. Access free software updates from the HySecurity website: [www.hysecurity.com](http://www.hysecurity.com)
- Install the Hy5B vehicle detector.
- Fully cycle the gate at least 2 times to allow the detector to adjust to the effects of the gate during travel. Drive a test vehicle over the loops.

**NOTE:** For in depth aspects on all features of the Hy5B, see [Hy5B User & Reference Guide](#) found in the [Tech Support](#) section of our website.

### Test the Vehicle Loop

Run diagnostic tests on the vehicle loops before installing Hy5B vehicle detectors to ensure the loops are in good working condition. The following tests cannot guarantee a functioning loop, but failure of either test means that the loop may be damaged or need to be replaced.

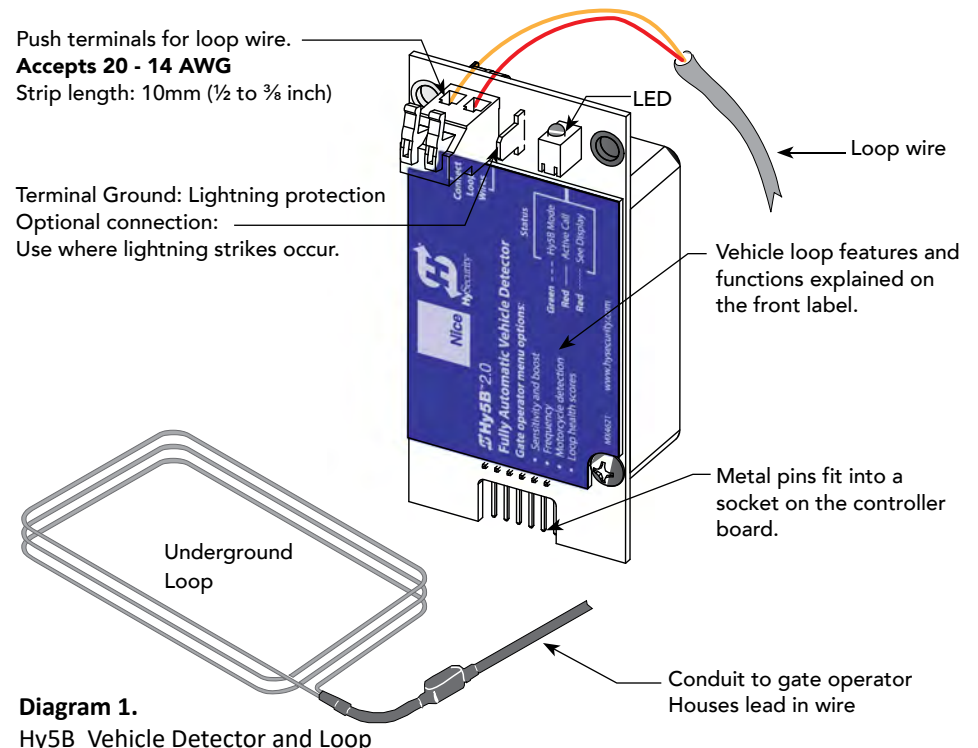
1. Test – Measure the resistance of the loop and lead-in wire. It should not exceed 4.0 ohms.
2. Test – Measure the resistance to earth ground with a Megohmmeter (Megger). It should be 100 Megohms or more. Below 50 mega-ohms, install a new loop.

**NOTE:** Loops may function at 100 Megohms or less, but will not be reliable (for example, when the ground is wet from rainfall). A low megohm reading on the resistance to earth ground usually occurs due to broken or moisture saturated insulation. Be sure to use wire with a direct burial jacket such as XLPE or XHHW wire. Do NOT use THHN wire.

### Check the Version of Software

1. In the field, open the gate operator's Control Box.
2. To view the software version, press the RESET key. To use Hy5B features, the software version must be h4.55 or h5.56 (or higher). Otherwise, the Hy5B reverts to Hy5A emulation mode.

Table 1: LED Display Status		
LED Activity	Indicates	Condition & Resolution
OFF	Hy5A mode	Emulation mode. Some Hy5B features are unavailable.
GREEN PULSING	Heart beat	Normal operation.
RED ON	Call Mode	Status indicates loop activation in process.
RED FLASHING	View display for more information: <i>Initializing</i> or <i>Faulty loop</i>	If initializing, wait until initialization is complete. If flashing during loop operation, take following steps: 1. Check loop wiring. See <i>Test the Vehicle Loop</i> on page 2. 2. Replace loop. 3. If loop is not at issue, swap out Hy5B vehicle detector with a known operational Hy5B. 4. If necessary, replace Hy5B.



**Diagram 1.**  
Hy5B Vehicle Detector and Loop

- If you wish to update the software, download the current S.T.A.R.T. software to your PC laptop, and then load the gate operator code to the controller board before installing Hy5B vehicle detectors. See [www.hysecurity.com](http://www.hysecurity.com) for updates.



**NOTE:** Hy5A emulation mode does not include all the features of Hy5B. If you are replacing Hy5A detectors and updating the gate operator software, be aware Build Year 1 (BY1) or Build Year 2 (BY2) will need to be addressed. BY2 requires monitoring of external entrapment protection sensors per UL 325 - 2016 Standard of Safety. If the gate operator was installed prior to 2016, BY1 may be used. For more information, refer to the [Gate Safety information](#) available on the [HySecurity website](http://HySecurity website).

## Install Hy5B Vehicle Detectors

Table 2: Vehicle Loop Sets				
Loop Type	Installer Menu	Loops Smart DC	Loops Smart Touch	Description
Exit Loop	ELD	EXIT LOOP	FREE EXIT	Opens a fully-closed gate.
Inside Reversing Loop	ILD	INSIDE OBSTRUCTION	INSIDE OBSTR	Connects to the inside reversing loop.
Outside Reversing Loop	OLD	OUTSIDE OBSTRUCTION	OUTSIDE OBSTR	Connects to the outside reversing loop.
Reset/Shadow/Center	SLD/CLD	CENTER LOOP	SHADOW / RESET	Prevents a gate from starting open or closed when a vehicle is in the path of the gate.

Install one Hy5B detector at a time. Each vehicle detector socket is labeled as shown in column 2 of *Table 2: Vehicle Loop Sets*.

- Turn power OFF in control box. See *Diagram 2. Control Boxes*.
- Insert the squared-off end of the plastic standoff through the hole in the Hy5B detector. See *Diagram 3. Insert Plastic Standoffs*.
 

**NOTE:** The plastic standoff "squared-off end" does not fit into the mounting holes of the control box. Double check the orientation of squared-off ends.
- To minimize excessive flexing, keep each Hy5B perpendicular to the control board as you plug it into the Hy5B socket.
- Secure the Hy5B by inserting each plastic standoff into the chassis.
- Place the two wires from the loop into the push terminals of the Hy5B. For ease of installation, the wire gauge should be 20 - 14 AWG.
 

**NOTE:** If you have more Hy5B detectors, repeat the steps 2 through 4 for each additional Hy5B detector.
- Turn power to the gate operator back ON.

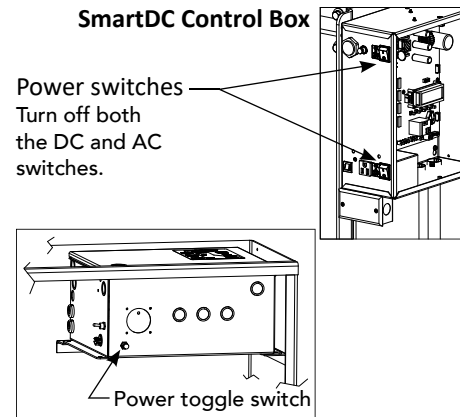


Diagram 2. Control Boxes

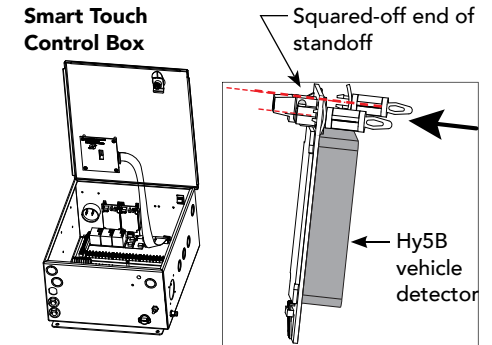


Diagram 3. Insert Plastic Standoffs



**Do not leave excess loop wire coiled in the control box because it can generate false calls.**

- The Hy5B indicator light flashes red and the following appears.
 

<b>Smart Touch 7-segment Display</b>	<b>STC (OLED) and Smart DC Display</b>
i n i t	INITIALIZING
- When the LED on the Hy5B detector stops flashing red, it flashes green. **Initialization is complete** and the detector is **ready for use**.
 

**NOTE:** If using Hy5A emulation mode, the LED does not flash green, it goes dark. See *Table 1: LED Display Status on page 1*. The flashing green LED indicates Hy5B mode.
- Press Reset. Pressing the Reset button:
  - Clears alerts
  - Checks Hy5B loop connections and re-tunes Hy5B to prevent crosstalk
  - Un-installs memory of vehicle detectors physically removed

**NOTE:** If the Hy5B is unplugged after it is initialized, an alert appears on the display, ALERT 10. If the issue is not resolved, ERROR 3 appears. When faults occur, the gate operator functions as if the Hy5B is triggered.

If connecting more than one reversing loop, wiring must be in series (not in parallel). Combine loops in series by tying together one lead from each loop (crimp or solder wires). Insert remaining leads (one from each loop) into the Hy5B vehicle detector set in either the OOLD or IOLD socket. For more information, refer to the Hy5B User Guide.



**Do not connect Free Exit loop wires to the same Hy5B detector containing obstruction loop wires (reversing loops). You cannot combine Free Exit vehicle detection with reversing loop detection. If you attempt to do so, vehicles crossing over the Free Exit will not be detected.**