Drive-Thru

PAR Clear Vehicle Detector Board (VDB) Quick Installation Guide

Contents

Vehicle Detector Board (VDB) Installation

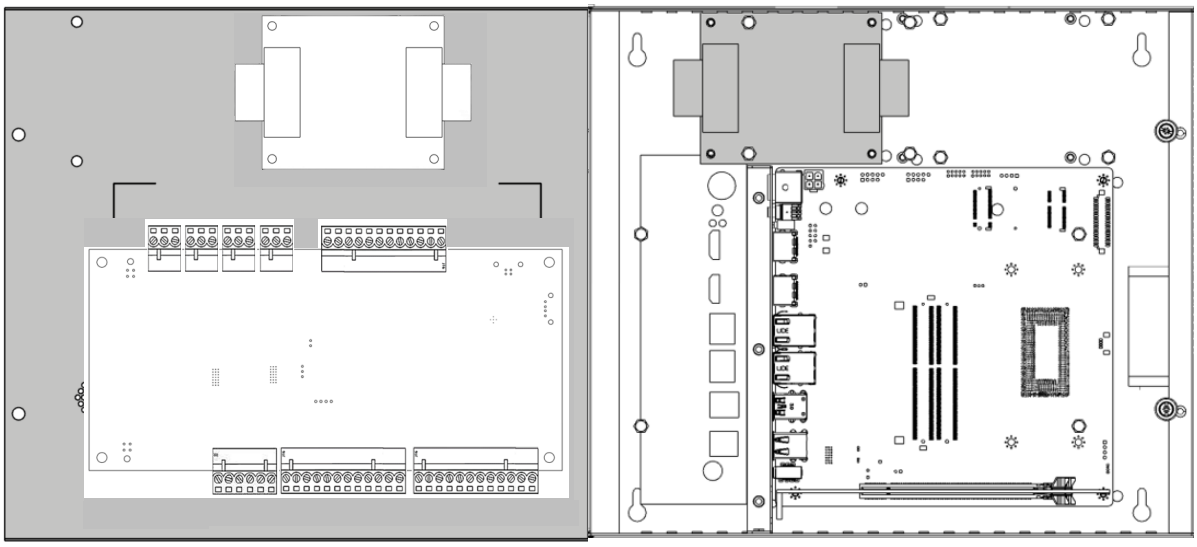
Required Tools and Materials

- Wire stripper (as needed)
- Phillips #2 and slotted #3 mm screw drivers
- Kit (included: 22 awg wires and #6-32 x 1/4 screws)

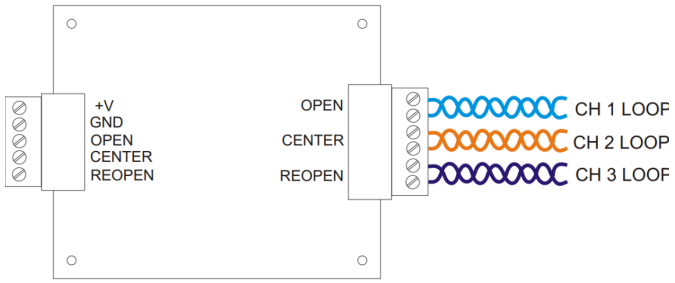
Installation

Important: Ensure the Basestation is *powered off* prior to installation.

1. Open the cover of the Basestation to install the VDB board(s).
    a. The PAR Clear system can accommodate up to two PAR Clear VDBs.
    b. The PAR Clear VDB can connect up to 3 loops each, totaling 6 loops as needed.
2. Mount the VDB to either location A or B (reference below) using the screws provided in the kit.



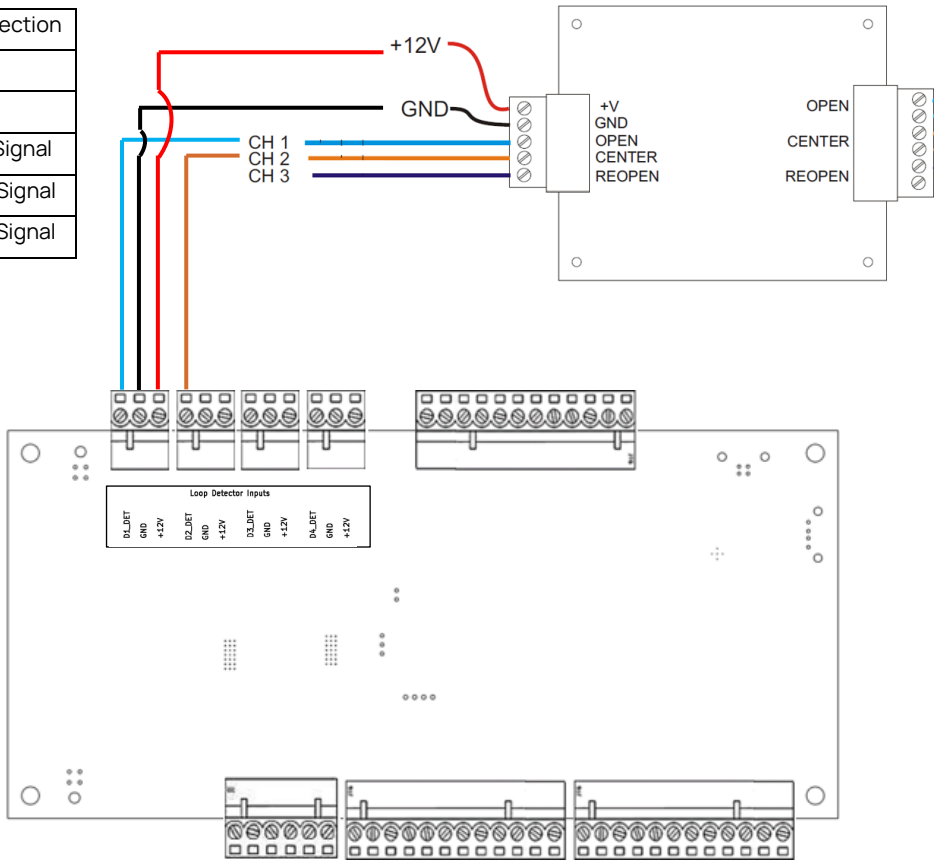
3. Install the loop wires to the 6-pin connector located on the right side of the VDB according to the table and diagram below:



Pin #	Name (generic)	Connection
1	OPEN	CH 1 LOOP
2	OPEN	CH 1 LOOP
3	CENTER	CH 2 LOOP
4	CENTER	CH 3 LOOP
5	REOPEN	CH 3 LOOP
6	REOPEN	CH 3 LOOP

4. Connect the 12v power, gnd, and the loop channels that you will be using from the 5-pin connector located on the left side of the VDB to the PTIO Board. Please refer to the table and diagram below and only use the CH 2 if it is a dual lane drive-thru:

Pin #	Name (generic)	Connection
1	+ V	+ 12V
2	GND	GND
3	OPEN (CH 1)	CH 1 Signal
4	CENTER (CH 2)	CH 2 Signal
5	REOPEN (CH3)	CH 3 Signal



J701-Pin #	Name	Connection to VDB
1	D1_DET	OPEN (CH 1)
2	GND	GND
3	+ 12V	+ V

J702-Pin #	Name	Connection to VDB
1	D2_DET	CENTER (CH 2)
2	GND	NC
3	+ 12V	NC

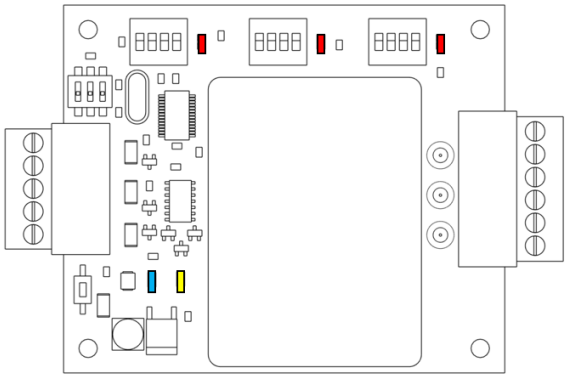
Testing the Vehicle Loop Detector

1. Ensure all connections are correct, tight, and not loose.
2. Power on the Basestation.

Refer to the diagrams and tables below for testing:

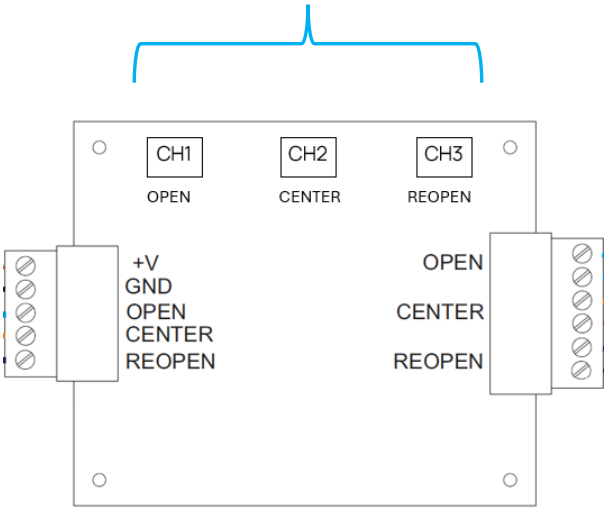
A. If all is working normal, the LEDs on the detector should have a constant **BLUE LED** for POWER.
B. The **RED LED** will be on when a car is present over the loop indicated. KEEP IN MIND THAT THE RED LEDs NEXT TO THE LOOP CHANNELS THAT ARE NOT BEING USED WILL CONTINUE TO FLASH RED
C. The YELLOW LED fault will be ON if any of the loops are not in use and will only be OFF when all 3 channel loops are being used.

Function	LED Color	Description
Power	BLUE	• Solid with correct power supplied
Detect	RED	• Solid- during detect • Single flash and pause= open circuit loop • Double flash and pause=shorted loop
Fault	YELLOW	• Solid-during a current fault



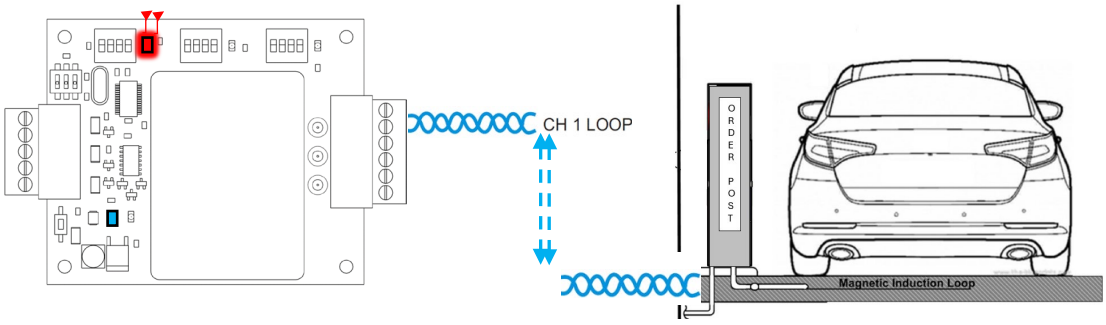
D. The default frequency is high and the default sensitivity is medium. These can be adjusted as needed. Each set of dip switches corresponds to each of the 3 loop channels.

(FO) SW1	(FO) SW2	FREQUENCY
ON	ON	LOW
OFF	ON	MEDIUM LOW
ON	OFF	MEDIUM HIGH
OFF	OFF	HIGH
(SO) SW3	**(SO) SW4**	**SENSITIVITY**
ON	ON	HIGH
OFF	ON	MEDIUM
ON	OFF	LOW
OFF	OFF	CHANNEL OFF



**all other dip switches that are not mentioned in the guide, please leave defaulted to OFF.

3. Proceed to have a vehicle drive up to the loop and ensure the correct loop channel LED turns RED and that it turns off when the vehicle leaves. Repeat this 3 times to demonstrate the loop and detector are working as expected. If enabled in your system, your headset will alert to indicate that a vehicle has arrived at the order point.



Finalizing Installation

Once the vehicle detection tests have been performed and verified, proceed to close the cover of the Basestation and tighten the thumb screws ensuring that all wires are neatly tucked away or zip tied inside the Basestation.

Vehicle Detection Board Specifications

Physical

Parameter	Specification or Requirement
Dimensions (l x w x d)	3” L x 3- 9/16” W x 3/8” D

Electrical

Parameter	Specification or Requirement
Input Power	10 to 30 VDC
Inductance Range	20uF to 1500uH
Output Rating	Solid State Detect 30mA maximum current sink. Outputs are protected from overvoltage or polarity reversal.

Functional

Parameter	Specification or Requirement
Indicator	Red, Yellow and Blue LED
Operating Temperature Range	-30 F to + 180 F

Version History

Date	Version	Notes
8/12/24	A	Initial Release
11/25/24	B	General formatting/layout updates