



H3167-SimPlex™ -00

Introduction

The H3167-SimPlex-00 functions as an interface between the H3167 line follower detector and SimPlex amplifiers. It provides the needed power to the H3167 line follower while also facilitating an adjustable gain for the output signal of the line follower.

Key Features

- Gain adjustment to compensate for variations in individual H3167 output signals.
- Rocker switch enables toggling from light line to dark line following modes.
- Powered directly by SimPlex amplifier (external user-supplied 24 V dc power supply required for SimPlex amplifiers built before January 2000).
- Plug-in connections for easy setup.

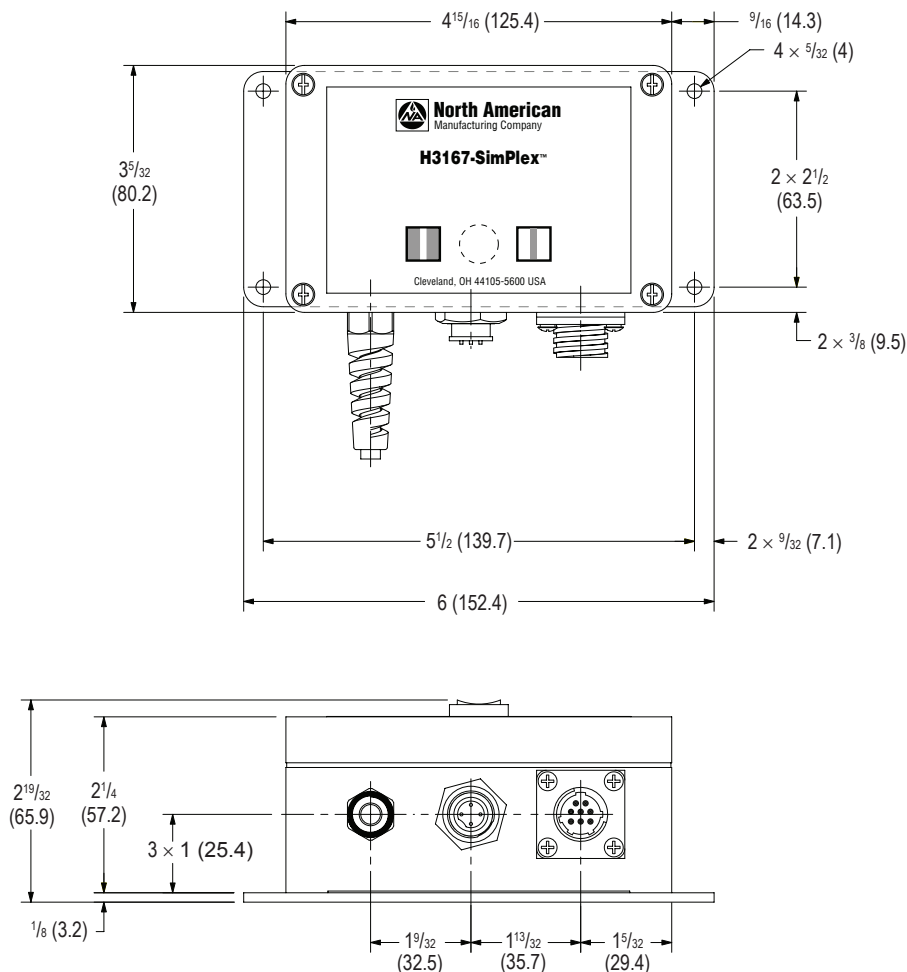


Figure 1. H3167-SimPlex-00 Dimensions

Specifications

Model Number: H3167-SimPlex™-00

Ambient Temperature: 32-122 F (0-50 C)

Power Requirement: 15 V dc supplied by SimPlex controller or user-supplied 24 V dc at 0.25A (external supply required for SimPlex amplifiers built before January 2000)

Input Signal: Nominal 2.5 V dc from H3167, correctable through gain compensation

Housing Material: Aluminum

Weight: 1.2 lb (0.54 kg)

Enclosure Rating: IP50

Cable Required for External 24 V dc Supply:
H6420-PWR-15

SETUP

- Step 1.** Make the following connections to the H3167-SimPlex-00 (See Figure 2):
1. The H3167 line follower detector.
 2. The SimPlex amplifier.
 3. Optional external +24Vdc power supply (provided by user). (An external 24 Vdc power supply is required for SimPlex amplifiers built before January 2000.)
- Step 2.** Adjust the jumper connections on the H3167-SimPlex-00 circuit board to achieve the proper output voltage. (See CONFIGURATION.)
- Step 3.** Correct for light/dark line following operation. (See CONFIGURATION.)
- Step 4.** Refer to the SimPlex controller manual for operation with a line follower detector.

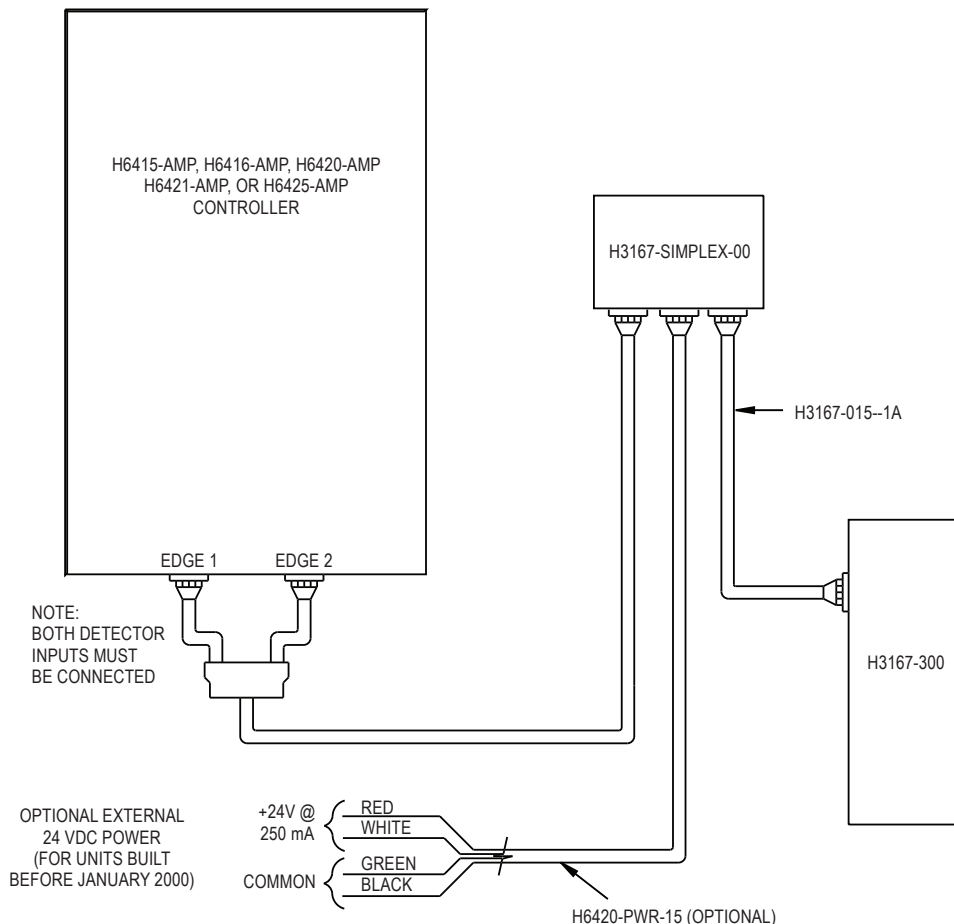


Figure 2. H3167-SimPlex Wiring

CONFIGURATION

The H3167-SimPlex-00 comes configured for standard installations. However, in order to obtain peak performance with all line widths and contrasts, it is recommended that the following gain configuration be performed. This configuration procedure compensates for gain variations between individual H3167 line followers.

1. Remove the cover from the H3167 by removing the 4 screws.
2. Place the H3167 setup card (or a small piece of white card stock if the H3167 setup card is not available) about 1" from the H3167 detector lens and measure the output by placing a voltmeter between the COM test point (TP1) and each of the OUT (1 and 2) test points (TP2 and TP3) on the H3167 circuit board (see Figure 3). If each of the OUT test points reads 2.5 V dc or greater, then no further configuration is necessary and you may move on to step 5. Otherwise, see step 3.

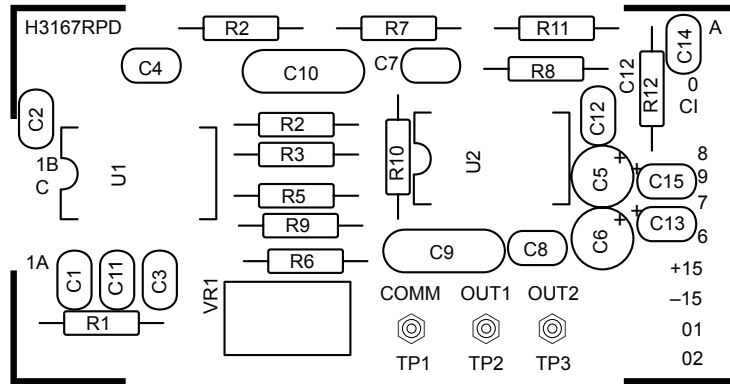


Figure 3. H3167 Circuit Board

3. If the outputs at TP1 and TP2 are less than 2.5 V dc, remove the cover of the H3167-SimPlex-00 (by removing the 4 screws on the top) and locate the double set of 2x4 jumper connections. Use the following output table and drawing to see which jumpers should be selected:

Detector Output	Jumper Selection
$\geq 2.5v$	J1 and J5
2.0v - 2.4v	J4 and J8
1.5v - 1.9v	J3 and J7
1.0v - 1.4v	J2 and J6

Table 1. Jumper Guide Table

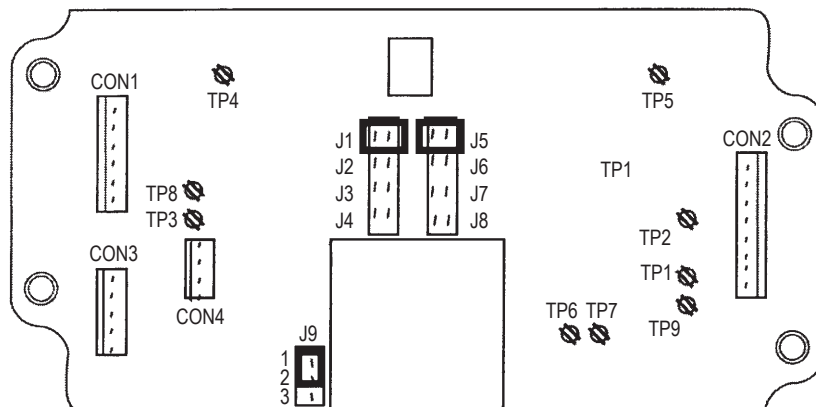








Figure 4. H3167-SimPlex-00 Circuit Board

4. If an optional 24 Vdc power supply is used (required for use with SimPlex™ controllers built before January 2000), connect it to the H3167-SimPlex-00 using cable H6420-PWR-15 (see Figure 2 for wiring). Move jumper J9 to position 2&3. (J9 should be in positions 1&2 if the SimPlex controller is used to power the H3167-SimPlex-00.)
5. Once you have adjusted the jumper settings replace the H3167-SimPlex-00 cover and the H3167 cover.
6. Refer to the SimPlex controller manual for operation with a line follower detector.

Note: The H3167-SimPlex-00 Interface provides a light line/dark line switch. If the guide runs away from the line, adjust the light line/dark line switch as follows:

1. Guiding a Dark Line – Examine the switch on the H3167-SimPlex-00. If it is set on "Light Line" , change it to "Dark Line" . If it is currently on "Dark Line"  change the polarity by reversing the DET1 and DET2 connections at the SimPlex amplifier.
2. Guiding a Light Line – Examine the switch on the H3167-SimPlex-00. If it is set on "Dark Line" , change it to "Light Line" . If it is currently on "Light Line"  change the polarity by reversing the DET1 and DET2 connections at the SimPlex Amplifier.

TROUBLESHOOTING

Symptom	Cause	Solution
Line follower is running off of the line.	Output signal polarities are reversed.	See NOTE at the end of CONFIGURATION section.
Line follower is not communicating with the amplifier/actuator to guide the web.	One or both of the output jumpers (J1-4, J5-8) are not in place.	Ensure that both jumpers are in place. See CONFIGURATION.
Detector is not receiving power.	Jumper J9 is not in place or is in the wrong position.	Ensure that J9 is in place and that it is in the proper location. See CONFIGURATION.

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