

# **NX APPLICATION NOTE**

## **LED Guided Assembly Detection Switches Mode**

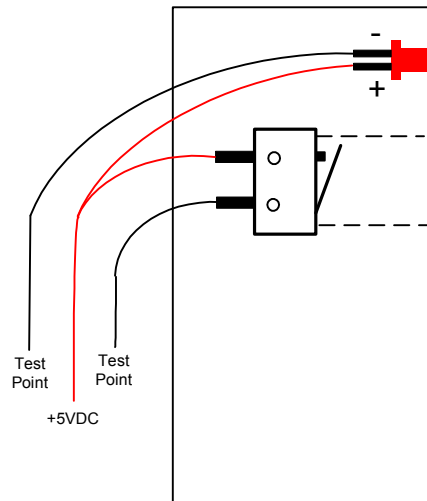
This document describes how the Dynalab NX Tester containing a LED Test Point Board is used to control switch detection fixture boards. These boards have multiple detection switch holders for detecting the presence of harness clips, grommets and other mechanical items. Each switch has a corresponding LED to instruct the operator which switches need to be activated.

### System Requirements:

- NX Editor version 1.0.19.233 or later
- NX Tester firmware version 2.19.213 or later
- 5-4009 (LED Test Point Board) installed in a NX Tester

## Example

Below is an example detection switch fixture block. A common +5VDC source will be wired to the LED anode side and one side of the switch. The LED cathode and other switch contact are wired to NX Tester test points.



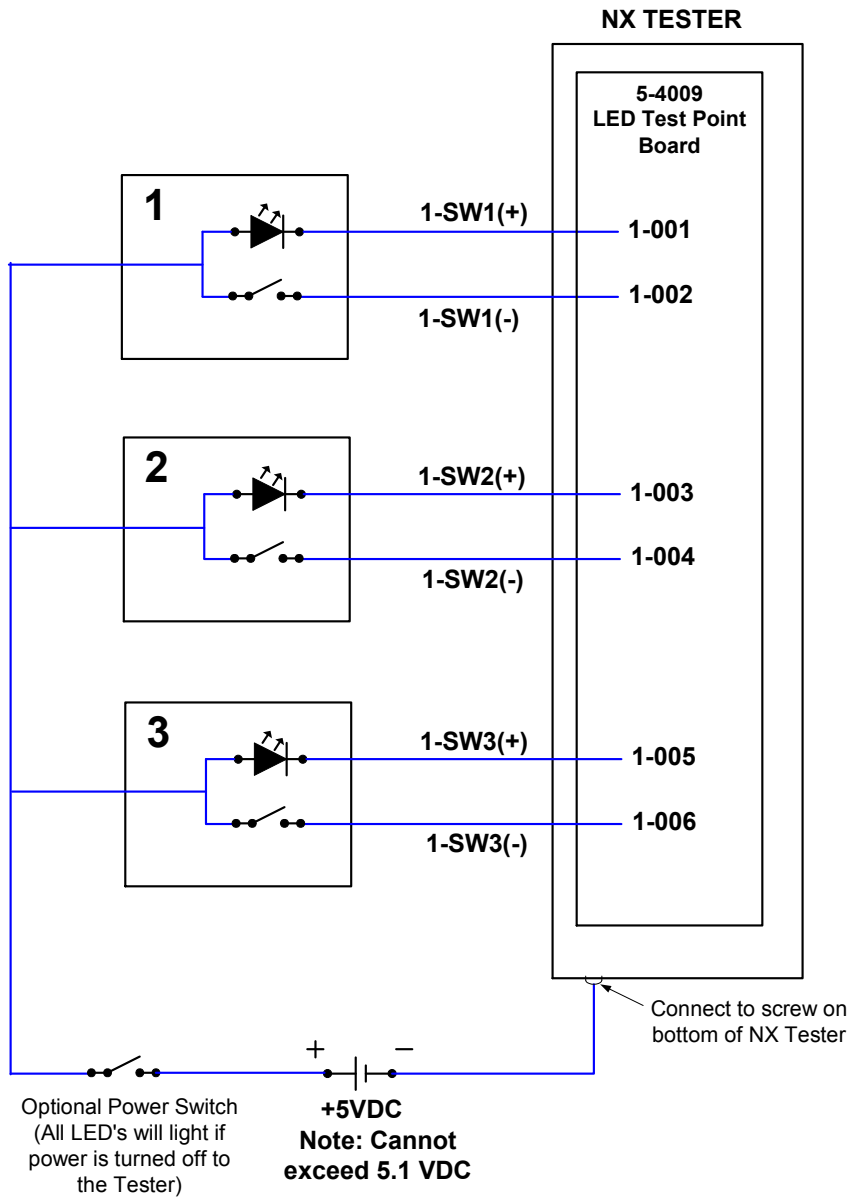
## Operation

- All LED's that are listed in the Connections View are illuminated
- When continuity is satisfied on a detection switch, the corresponding LED will be turned off
- The quantity of unsatisfied detection switches is displayed in the upper right corner

Tester Display

```
SWITCH OPEN      3
1-SW1
```

# Wiring



**Warning:** Damage will occur to diodes if the cathode is accidentally connected to ground and the anode is connected to +5VDC. The 5-4009 has built-in current limiting for diode protection

**Note:** If the Tester power is turned off and the +5VDC to the LED's is turned on, all LED's will light. An optional power switch or a Control Port (5-1060) can be used to turn off the power to the LED's.

# Programming

## Fixture Block Table

Name	Test Point
1-SW1(+)	001-01
1-SW1(-)	001-02
1-SW2(+)	001-03
1-SW2(-)	001-04
1-SW3(+)	001-05
1-SW3(-)	001-06

The (+) side is wired to the LED Cathode  
The (-) side is wired to the detection switch

## Connections Table

Point	Point	Name	Color
1-SW1(+)	1-SW1(-)		
1-SW2(+)	1-SW2(-)		
1-SW3(+)	1-SW3(-)		

Add all detection switches

## Workflow

Use the below recommended Workflow for the LED Guided solution.

Note: The workflow cannot contain either a standard Test or Remove workflow items

### Scan for Detection Switches

Test-LED Guided Properties

Phase: Main

Mode:

- LED Only
- LED and Continuity
- Detection Switches
- No Continuity

### Provide feedback that test is complete

User Interface Properties

Audio: Twirl

Repeat for Duration

Visual:

- Harness passed.
- Remove harness now.

Until Next Display Message

For Duration  Flash Message

NX View Document Link:

Duration:

- Timed: 2 Seconds
- None
- Until User Input: Green Button
- Until Port: Control Port is Closed
- Until Port: Control Port is Open

### Verify that all detection switches are open

Test-LED Guided Properties

Phase: Main

Mode:

- LED Only
- LED and Continuity
- Detection Switches
- No Continuity