

# NX APPLICATION NOTE

## OLTT Interface

### Overview

Dynalab Test Systems provides an OLTT interface board to support end-of-line test table integration. This board allows integration with both new and existing Dynalab systems.

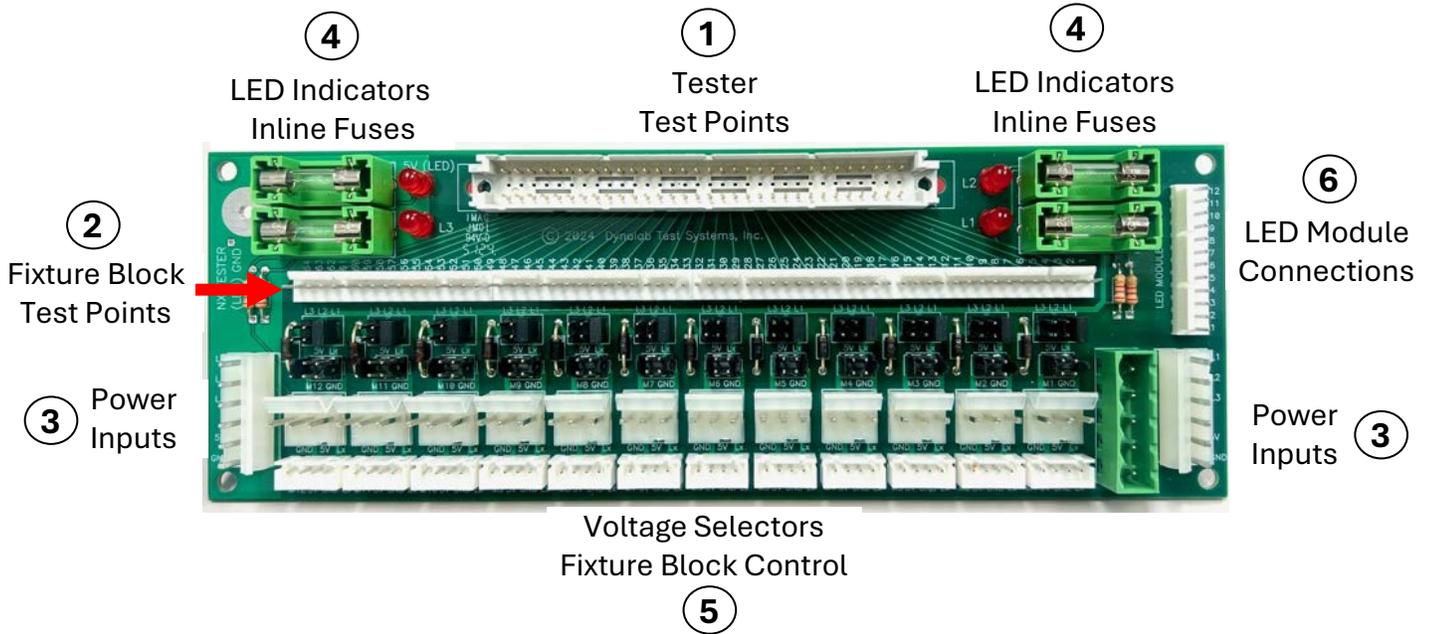
Use of V2 Test Point Board Features described in this document requires:

- NX Tester firmware version **1.21.399** or later
- NX Editor version **1.0.22.287** or later



# OLTT Board

## Board Sections

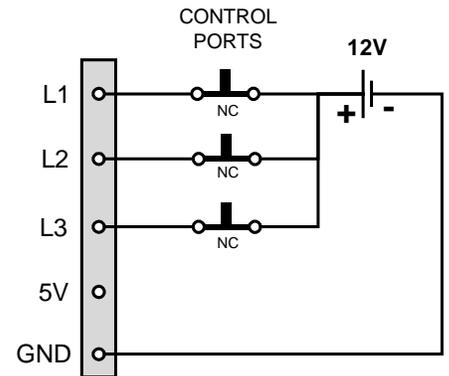


ID	Section	Description
1	Tester Test Points	Connects to NX Tester via a ribbon cable assembly
2	Fixture Block Test Points	Connects to Fixture Block pins to mate with harness connector
3	Power Inputs	Voltage and ground connections.
4	LED Indicators Inline Fuses	LED indicates if the corresponding voltage is on the board 2 amp (0-5701322) inline fuse for the voltage inputs
5	Voltage Selectors Fixture Block Control	Jumper that selects 1 of 3 input voltages for fixture block Three different connectors to connect to specific fixture block types
6	LED Module Inputs	Connects to LED Module (5-1303) for use with V1 Test Point Boards. Requires updated 5-1303, shipped after 01/01/2026.

## Power Inputs / Fixture Block Control

Each OLTT board has 12 control sections, each with a jumper that can be set to L1, L2, or L3. Position L1 supplies power to the fixture block, L2 designates the block as a Power Clamp Fixture, and L3 designates it as a Second Step Fixture.

- L1: Power to Fixture Blocks
- L2: Power to Clamp Fixture Blocks (Optional)
- L3: Power to Second Step Fixture Blocks (Optional)



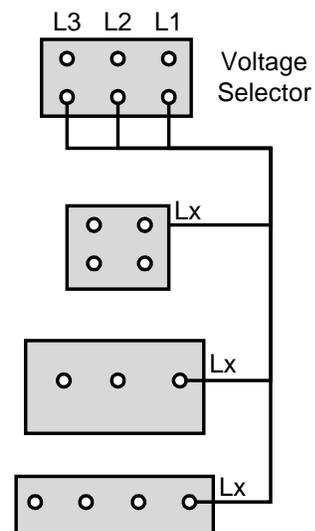
**Clamp Fixture Blocks:** A single clamp fixture block is used, requiring supervisor authorization to release the connector. An example wiring schematic is provided later in this document. See “Fixture Clamp Activation” application note for more details.

**Second Step:** For applications where electrical parts are mated with a harness connector and require automatic release of only those connectors associated with the mated electrical parts. See “Testing Electrical Parts that Mate with a Harness Connector” application note.

Kufferath Compatible  
TSK Compatible

Kufferath Compatible

Emdep Compatible



## OLTT Power Control

OLTT boards can be daisy chained, reducing the need for multiple accessories to manage individual fixture blocks.

### Basic Setup (LEDs and Fixture Blocks – L1)

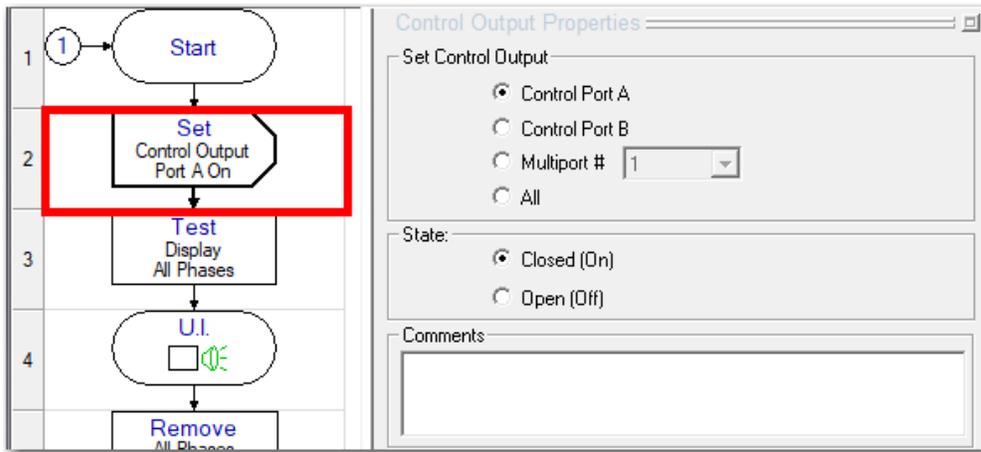
If the table only requires power for LEDs and Fixture Blocks (L1), this can be accomplished using the 5-1060 Control Port Module.

### Advanced Setup (Fixture Clamps – L2 / Section Step Fixture Blocks – L3)

If the table requires power for Fixture Clamps (L2) or Section Step Fixture Blocks (L3), a 5-1301 Master and 5-1302 Output Control Module are required. The LED power supply may also be connected to an available control port on this device, eliminating the need for a separate 5-1060 module.

**Note:** The 5V power supply must be managed by either a 5-1060 Control Port Module or a 5-1302 Output Control Module to ensure that voltage does not get to test points during start up. Using the Control Output options helps ensure there are no erroneous startup errors.

Power activation for LEDs and fixture block controls is handled through the Set Control Output property within the workflow.



For more information, see the “Set Control Port Output” section of the NX Editor User’s Guide Document.

## LED Power

The schematic below provides a visual example of how to connect the 5V power supply, Control/Output Module, OLTT board, fixture block LED, and NX Tester.

### Ground the Power Supply

The negative/neutral/ground wire from the 5V power supply used for the fixture table LEDs must be grounded to the NX Tester chassis.

Use the screw located on the bottom of the NX Tester to make this connection.

### Connect the Positive Supply Lead

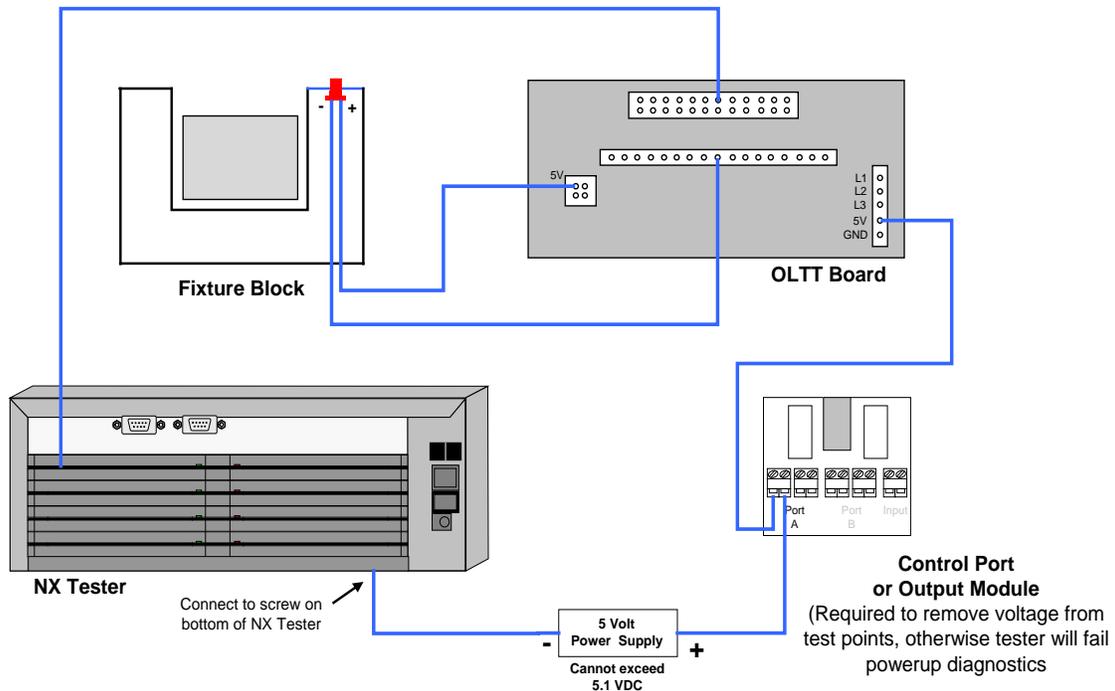
The positive (+) side of the power supply should be connected to either a Control Port Module or an Output Control Module. From the module, run a wire to one of the 5V power inputs on the OLTT board.

**Note:** Since OLTT boards are daisy-chained, only one primary connection from the control port to a 5V input is required.

### OLTT to LED and back

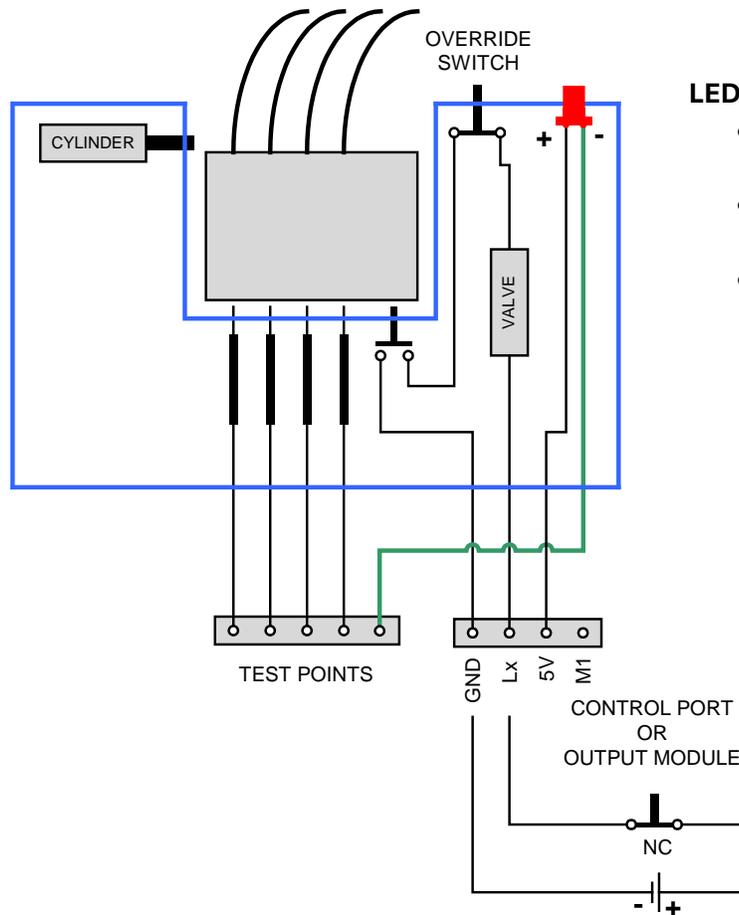
From the OLTT board, connect a 5V pin on from a fixture block control connector to the positive (+, anode) side of the LED.

Connect the negative (-, cathode) side of the LED to its corresponding Fixture Block Test Point.



# Wiring Schematic (V2 Test Point Board)

V2 Test Point Boards are boards that were released in 2025 and can illuminate the Fixture Block LED.



## LED Illumination

- Tester displays error associated with fixture block
- Corresponding LED test point completes circuit
- LED illuminates

## Connector Inserted

- Operator inserts connector
- Fixture block detection switch is activated
- Air valve circuit is completed
- Cylinder is activated
- Connector is clamped in fixture block.

## Connector Removal for Repair

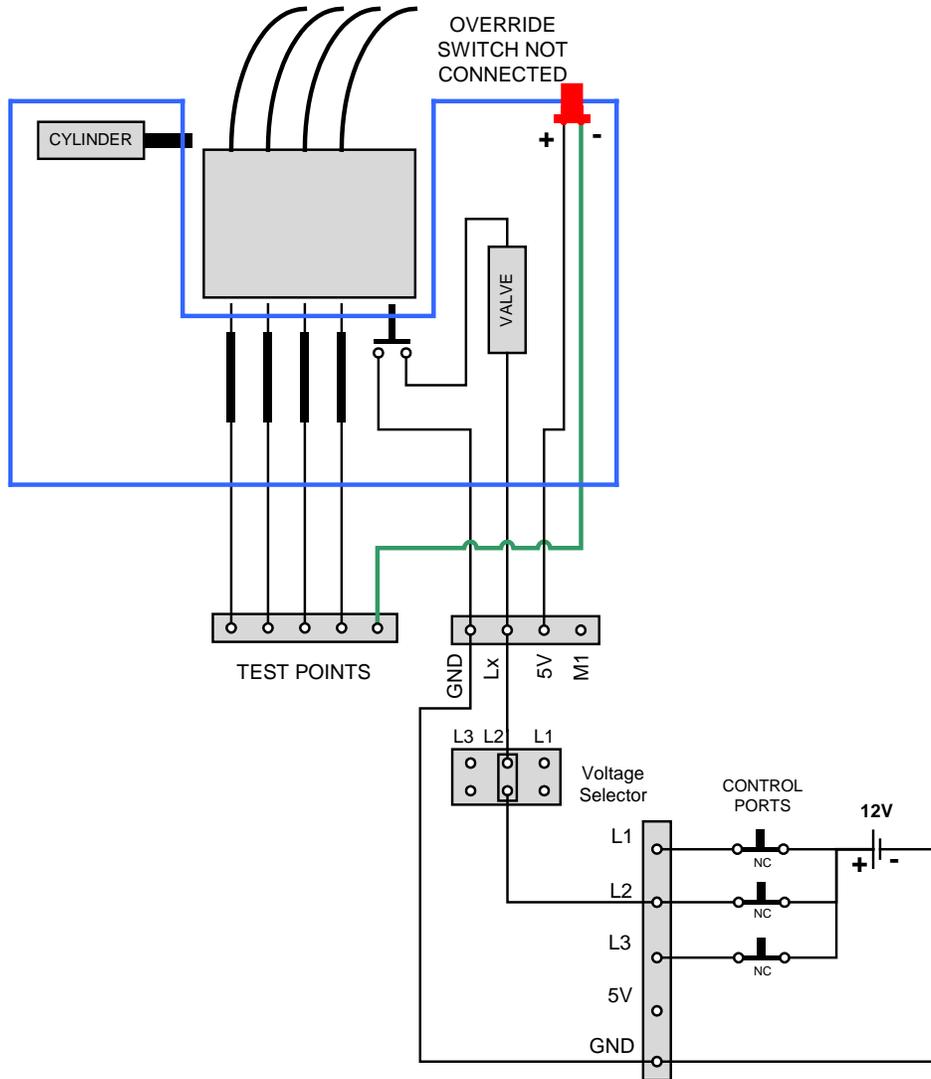
- Operator presses override switch
- Air valve circuit is open
- Connector is released from fixture block

## Passed Harness Needs Released

- Control Port removes power
- Air value circuit for all fixture blocks is open
- All connectors are released from fixture blocks

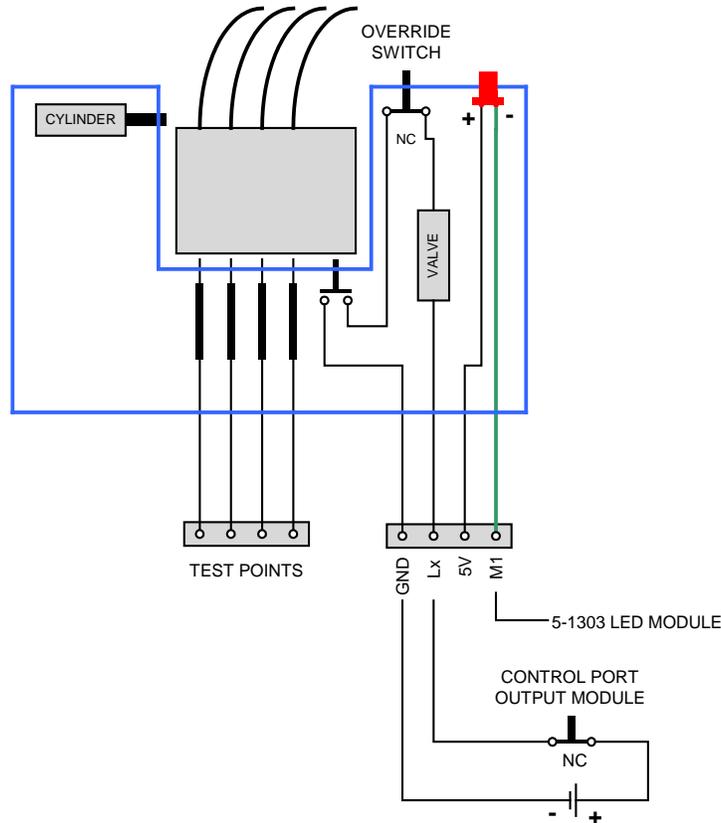
# Wiring Schematic Clamp Fixture Block

A single fixture block that requires a supervisor to release connector.



# Wiring Schematic (V1 Test Point Board)

V1 Test Point Boards are the boards that have been produced since 2004 and do not have the ability to illuminate the Fixture Block LED. This application utilizes the LED Module (5-1303) to illuminate the LEDs. Requires updated 5-1303, shipped after 01/01/2026.



## LED Illumination

- Tester displays error associated with fixture block
- Corresponding LED Module completes circuit
- LED illuminates

## Connector Inserted

- Operator inserts connector
- Fixture block detection switch is activated
- Air valve circuit is completed
- Cylinder is activated
- Connector is clamped in fixture block.

## Connector Removal for Repair

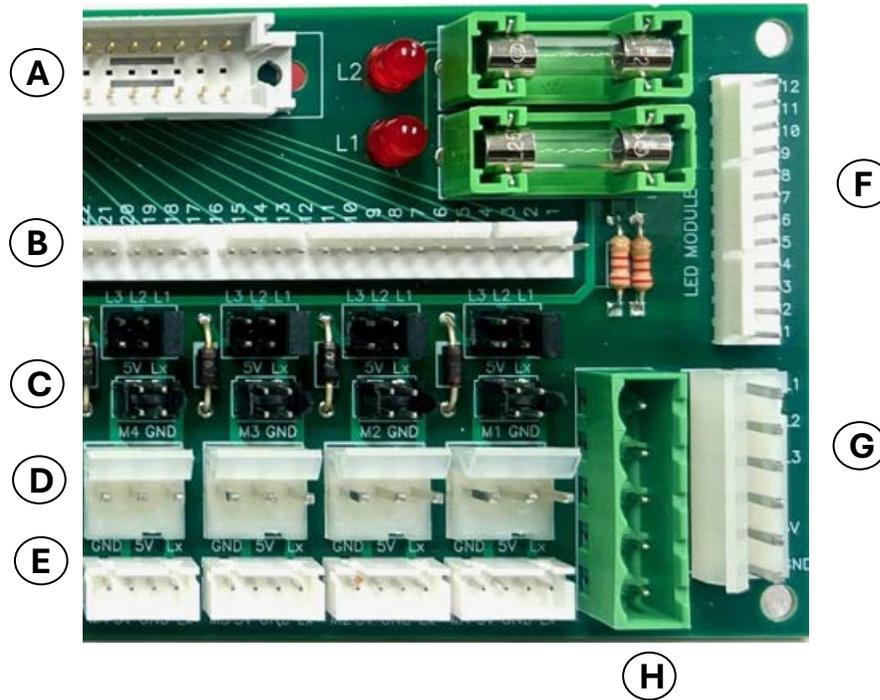
- Operator presses override switch
- Air valve circuit is open
- Connector is released from fixture block

## Passed Harness Needs Released

- Control Port removes power
- Air value circuit for all fixture blocks is open
- All connectors are released from fixture blocks

# Mating Connectors

Dynalab Test Systems supplies the OLTT boards but does not supply the interface connectors shown below. This table is provided as a helpful guide to assist users in selecting and purchasing the correct connector types for their fixture integration.



ID	Name	Manufacturer	Part Number
A	Test Points Input	Harting	09 03 264 6828
B	Test Points Output	TE	3-640441-X (X = position quantity)
C	Fixture Block Control	FCI	65239-002LF
D	Fixture Block Control	JST TE	XHP-4 (Crimp Terminals) 3-640426-3 (IDC)
E	Fixture Block Control	Molex	0009501031
F	LED Module	TE	3-640441-X (X = position quantity)
G	Power Input	Molex TE	0009501061 (Crimp Terminals) 3-643817-6 (IDC)
H	Power Input	Phoenix	1757048