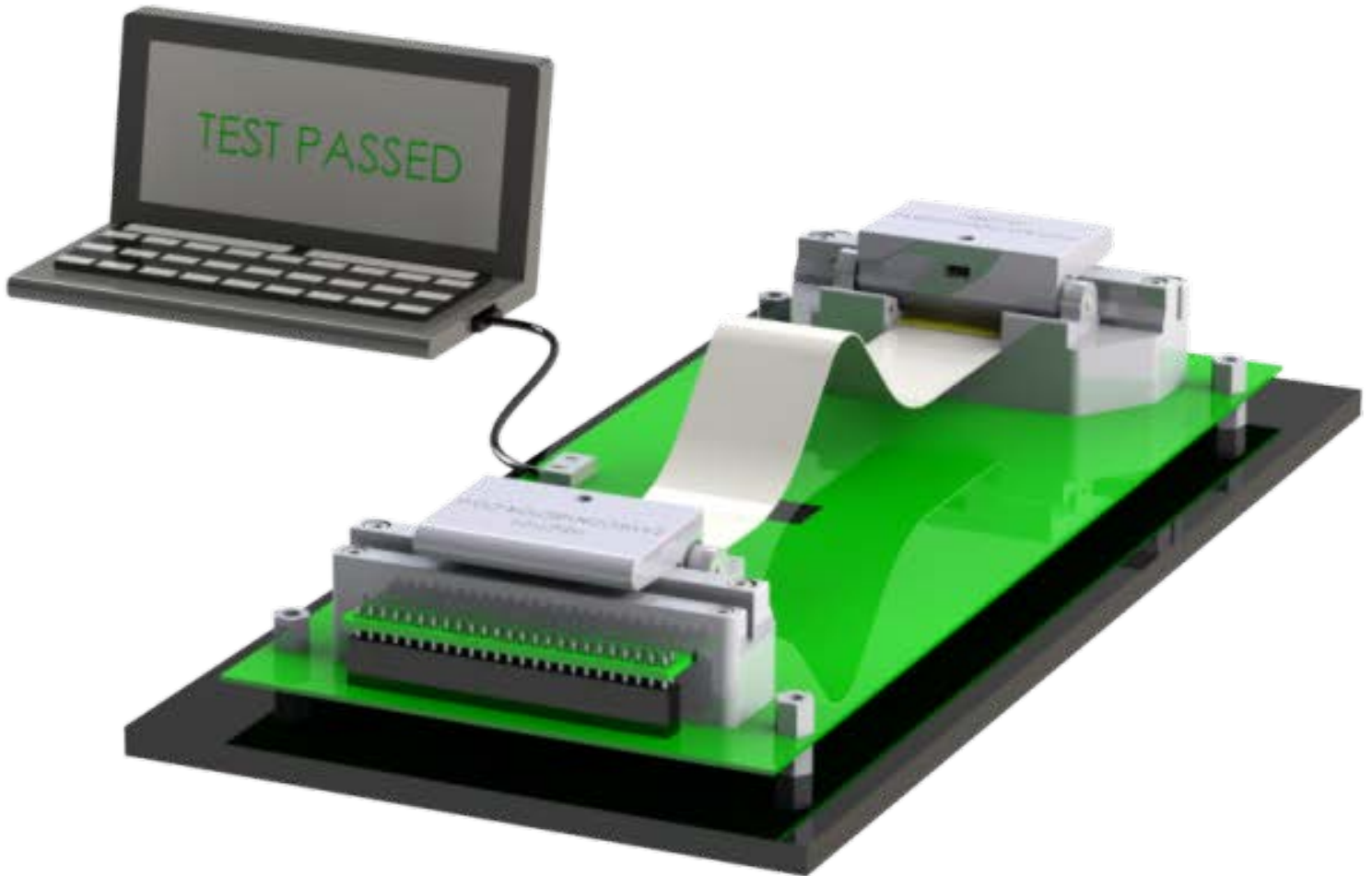


Automated Flat Flex Cable Testing Solution



Limitation with ZIF and LIF Connectors

Low profile ZIF and LIF (zero and low insertion force) connectors are used to interface FFC - FPC circuits to PCBs. While ZIF and LIF connectors are great for meeting the product needs of integrated electronics, the connectors have a limited actuation life. This creates a significant need for improved testing of FFC - FPC based electronics. In addition, ZIF and LIF small formats are difficult to work with due to their size, creating a secondary need for a fixture which is more ergonomic for operators, and adaptable for automation.

Testing Solution

The Z-Axis High Speed Cable Tester, HSCT, is an automated test unit that uses our custom software and hardware to test FFC - FPC circuits more efficiently. The testing software checks the device for shorts and the resistance of each pin. All testing is controlled through the GUI.

The HSCT tests devices featuring up to 50 contacts. One tester can be used to test a multitude of device sizes by using our size adapters. The operation of changing the tester size is done in minutes.



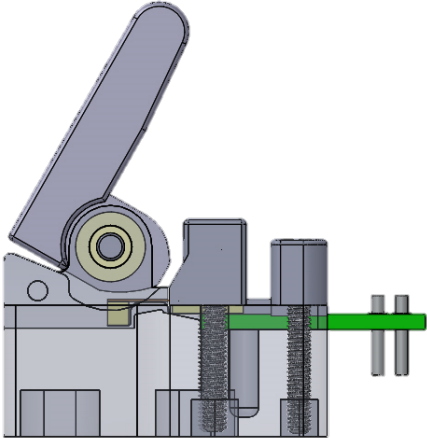
50 pin to 30 pin insert.



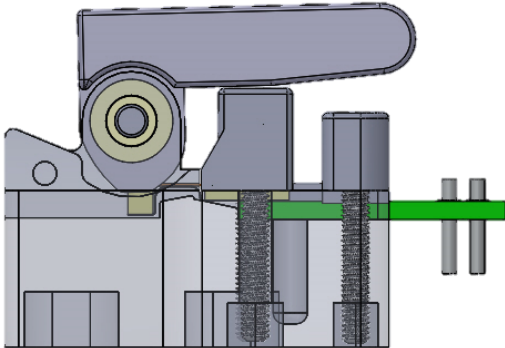
50 pin to 16 pin insert.

Operation Simplicity

To make a connection, the FFC – FPC device is inserted into the fixture and the operator actuates the ergonomic CAM lever to bridge the device and the test equipment. Our Z-Axis Elastomeric Connector is compressed onto the device making the connection to the test equipment. The unit leaves no marks on the device once the testing is done. Once the lever is pulled back, the device is disconnected from the test equipment. The HSCT allows for a higher volume of devices to be tested and verified.



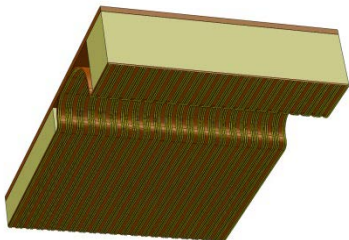
The lever is pulled UP, so no connection is made. The DUT can be inserted or removed with zero force.



The lever is actuated and compressing the Z-Axis elastomeric connector. The connector is an electrical bridge from the DUT and testing circuit.

Proven Reliability

Our elastomeric connectors featured inside the unit are rated at 10,000 plus cycles. This is superior to the standard flip-lock connector that is only rated for 30 cycles. Our connectors also feature redundant conductive wire patterns to ensure reliable connection to the test equipment is made. These elastomeric connectors can be used to test a wide range of devices including high power. The connectors are also easily replaceable, and the operation can be performed in minutes. Replacing the connector is intuitive and fast.



Z-Axis elastomeric connector.

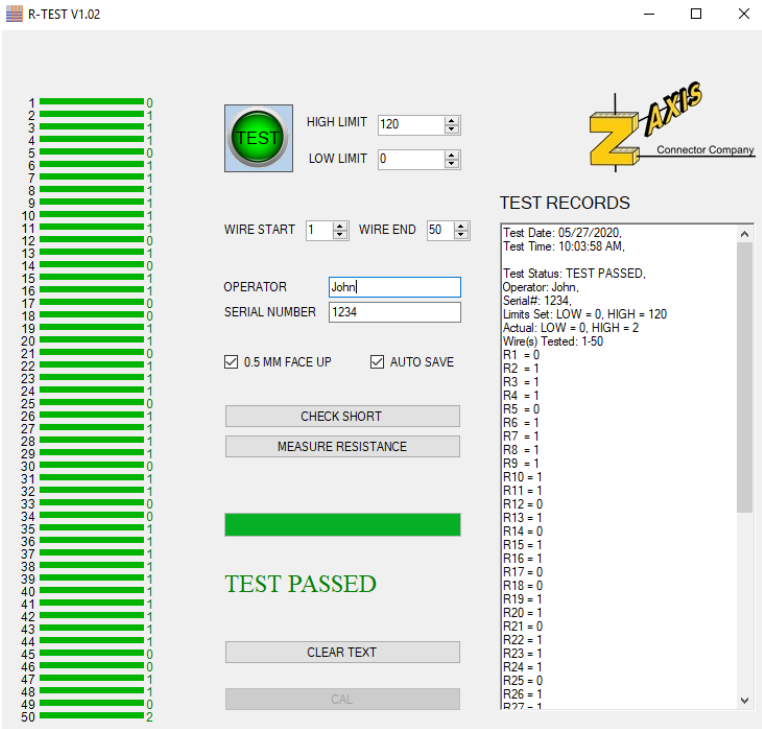


Redundant wire pattern.

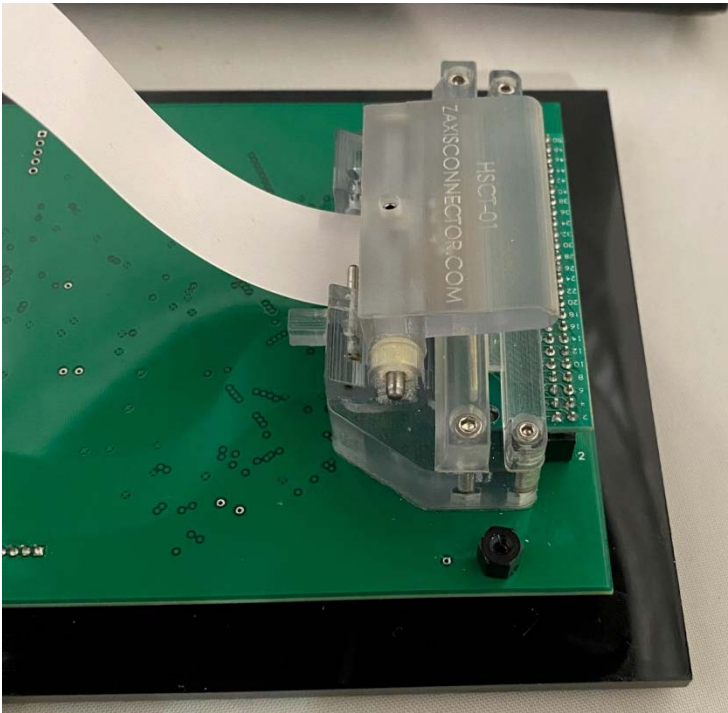
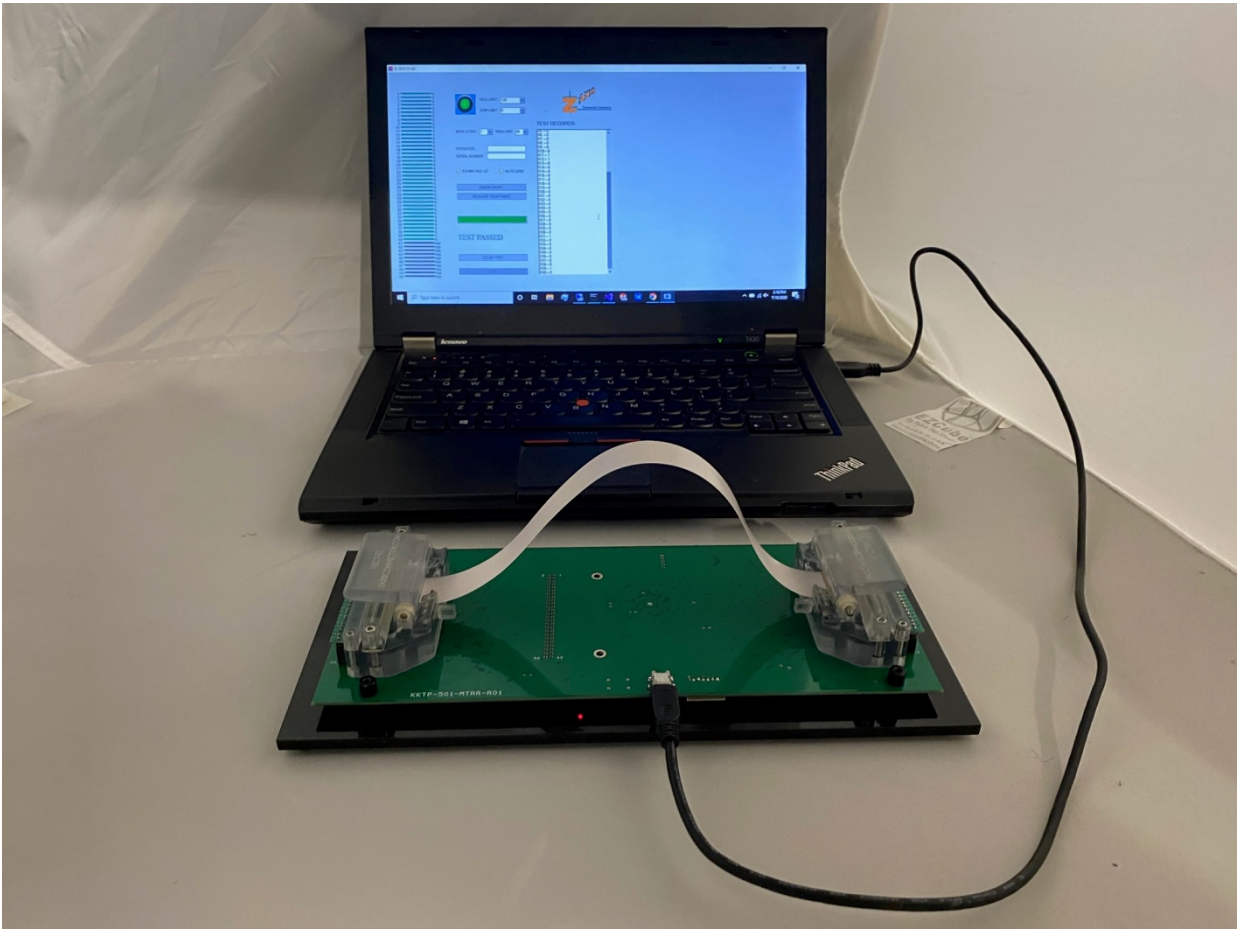
Included Software

The HSCT uses our proprietary software to run and record the tests. It features an easy-to-use GUI to control the fixture's parameters. The GUI records data from each test and generates a text file that contains the data. Once the test is complete, the GUI saves the data file on a local machine, or in the cloud. Below is an example of the fixture GUI.

The operator chooses the accepted high and low resistance values for the device under test. In this example, the high is set 120 ohms and the low is 0. The operator also chooses how many pins to test, with the maximum being 50. If a different sized cable is tested, the operator must change the WIRE END textbox to the correct value. The software will record the resistance measured for each pin, and if there are any shorts.



Gallery



Document Revisions

| <u>REV.</u> | <u>DESCRIPTION</u> | <u>DATE</u> | <u>AUTHOR</u> |
|-------------|--------------------|-------------|---------------|
| A | Initial Release | 6/9/20 | JDG |
| B | Include Gallery | 6/12/20 | JDG |
| C | Update Gallery | 7/10/20 | JDG |
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