



NEXEYA
A Hensoldt Company.



**AIRCRAFT WIRING DEFECT
DETECTION SOLUTION**

ELECTRICAL SYSTEM DEFECT DETECTION

With the kilometers of cabling & harnesses, and myriad of connectors, that make up an aircraft's electrical system, it can be an extremely difficult challenge to pinpoint electrical issues.

In order to address the process of identifying and locating faults, both permanent and, more importantly intermittent issues (often associated with high vibration environments), Nexeya developed the WIDD; Wiring Intermittent Defect Detection solution.

Using reflectometry and impedance, capacitance and resistance measurements the WIDD can not only detect a fault, in a fraction of the typical trouble shooting time, it pinpoints the location of the defect.



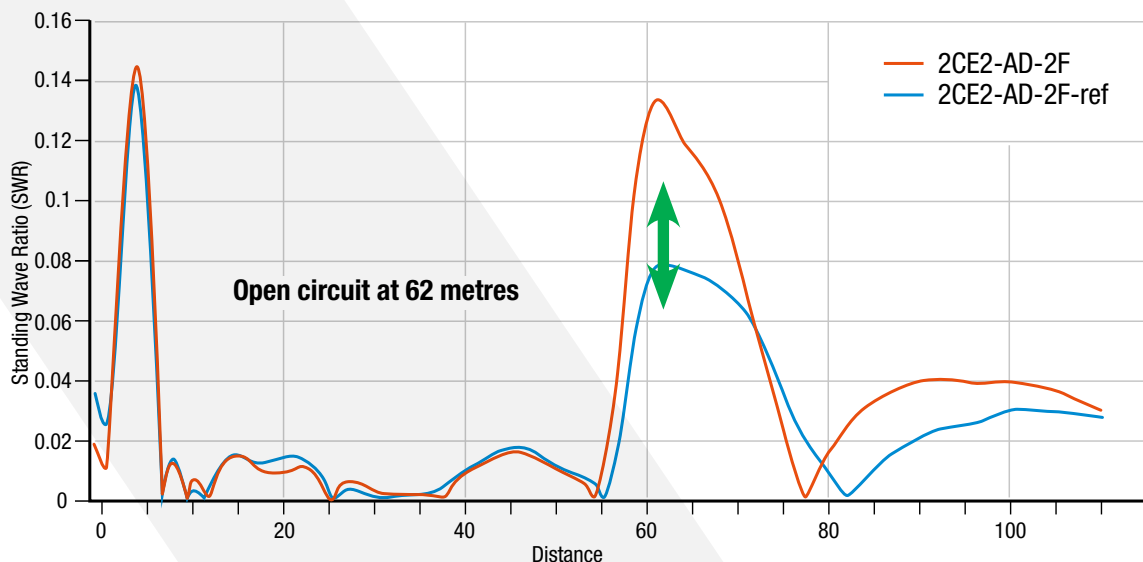
MAIN CHARACTERISTICS

- Multi-channel LCR and reflectometry measurement
- Able to detect the following faults:
 - Short circuit
 - Open circuit
 - Bonding
 - Grounding
 - Intermittent connections
- Intelligent automatic testing of electrical system cables and harnesses
- Intermittent fault finding function
- Applicable to any aircraft with use of specific connections
- Simple & easy tool to deploy with minimal training required

The WIDD combines standard LCR measurement technology with a baseline sample or 'bundled wire' referencing and Time Domain Reflectometry in order to detect and locate both permanent and intermittent electrical defects.

The process involves connecting one side of a suspected harness to the WIDD and running the automated self diagnostic test. If the harness was previously tested (and a baseline established) the current test is compared to the baseline to identify variances and therefore defects. If a baseline is not on file the WIDD will compare the various wires in a cable or harness and reference wire to wire to determine the individual wire issue and locate the defect.

The **RED** test graph is paired to the **BLUE** baseline or 'bundled wire' reference with the delta indicating the marker location for a defect.



Though the WIDD is an excellent trouble shooting tool, the ability to log data, at regular maintenance intervals, enables for predictive analytics, contributing greatly to asset management and life cycle modelling exercises.

Defects as minor as this abrasion (on a NH-90) are easily detected with the WIDD.



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