Wire Integrity Tester (WIT)

The Astronics DME Wire Integrity Tester (WIT) is a portable, self–contained test platform used for verification testing and fault detection, isolation and repair of metallic wiring. The tester contains the hardware and software necessary to test and verify the integrity of wiring in a field deployed, depot, or factory type environment.

The WIT is a fully functional, hand held wire integrity tester to evaluate the condition of wiring/cabling within a system, such as aircraft, ground vehicles, boats/ships, or interior/exterior wiring/cabling, including long haul cabling. The WIT is capable of providing quantitative measurements to detect opens and shorts, along with intermittent conditions such as chaffing or cracking of the wire's insulator. The WIT consists of a Tablet PC combined with an instrument pack. The integrated unit provides: a Spread Spectrum Time Domain Reflectometer (SSTDR), a Low Energy High Voltage (LEHV) Time Domain Reflectometer (TDR), and optionally, a Digital Multimeter (DMM).

- Next Generation of TDR
- Combines the latest SSTDR technology and ArcSafe LEHV technologies
- LEHV ArcSafe Slow Charge design provides added ability to detect and locate soft faults on un-powered conductors without powering or moving the cable
- Detects hard faults and soft faults on metallic conductors
- Capable of detecting soft faults in harnesses that are unpowered or powered

Wire Integrity Tester Specifications

GENERAL CHARACTERISTICS

Dimensions (Tester)	7.2"(h) x 8.8"(w) x 3.5"(d)
(Transit Case)	8.5"(h) x 17.5"(w) x 21"(d)
Weight (Tester)	<8 lbs.
(Transit Case)	<27 lbs.

TABLET CHARACTERISTICS (Logic Instrument Fieldbook)

Dimensions	9.2" W x 5.9" H x 1.9" D
Weight	2.4 lbs.
Processor Speed	Intel® Atom™ Z530 (1.6GHz)
Hard Drive	120GB SATA 1.8'' G-sensor
USB	2x
Expansion Slots	Express Card 54 SD Memory Card
Camera	Camera 2Mp-UXGA auto-focus
Options	GPS receiver (+ external GPS antenna over cradle)
	BlueTooth 2.1+EDR
	RFID scanner 13.56MHz
	1D/2D barcode reader

BATTERY CHARACTERISTICS (TESTER)

Type	Lithium Polymer Battery Packs
Voltage	7.4V
Watt/Hr	2500mAh
Battery Operation	>4hr (typical)

LEHV TDR

DTF Accuracy (Un-branched Path, $\geq$ 5.0 feet and $\leq$ 125 feet) (Minimum Valid Range) Vmax 5 kv @ 50 µA

User Entered VoP

Controlled Impedance	±(3% of reading +0.2') + VoP Uncertainty
Un-Controlled Impedance	±(5% of reading +0.5') + VoP Uncertainty

VoP Semi-Auto Calculation

Controlled Impedance	±5% of reading + 0.2'
Un-Controlled Impedance	±10% of reading + 0.5'

SSTDR

DTF Accuracy (Un-branched Path)(Minimum Valid Range)

User Entered VoP

$\geq$ 5.0 feet and $\leq$ 100 feet

Controlled Impedance	±(3% of reading +0.2') + VoP Uncertainty
Un-Controlled Impedance	±(5% of reading +0.5') + VoP Uncertainty

> 100 feet and $\leq$ 5000 feet

Controlled Impedance	±(5% of reading + 2') + VoP Uncertainty
Un-Controlled Impedance	±(10% of reading + 2') + VoP Uncertainty

VoP Semi-Auto Calculation

$\geq$ 5.0 feet and $\leq$ 100 feet

Controlled Impedance	±5% of reading + 0.2'
Un-Controlled Impedance	±10% of reading + 0.5'

> 100 feet and $\leq$ 5000 feet

Controlled Impedance	±5% of reading + 2'
Un-Controlled Impedance	±10% of reading + 2'

Maximum Input Ratings for Powered Wires (CAT II)

AC Voltage	240 VAC RMS @ 50/60 or 400 Hz
DC Voltage	300 VDC
Output Signal Amplitude	0.016– 0.500 Vpp (selectable)

Intermittent Event Duration for Detection (typical)

Unpowered cable	>1ms
Powered cable	>3ms

DMM

AC / DC VOLTMETER

Range	1mV to 300V
Resolution	5-½ digits
AC Volts Frequency Range	40 Hz to 10 kHz

OHMMETER

Range	0.1 Ω to 20 M Ω
Resolution	5-½ digits