

EDDY CURRENT FLAW DETECTORS

AEROCHECK+ MILITARY PACKAGE



- Large, Crisp Daylight Readable Display
- User Friendly Interface and Ergonomic Lightweight Design
- Rotary Capabilities As Standard
- Industry Standard Probe Connectors
- Eight Hour Battery Life
- Rapid 2.5 hour charging time
- Two-Year Warranty
- Advanced Features 'Loop', 'Guides' and 'Auto-mix'



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ETHER NDE 

AEROCHECK+

The AEROCHECK+ Flaw Detector offers the very best in Eddy Current performance with rotary inspection capabilities as standard.

INDUSTRY STANDARD PROBE CONNECTORS

The AEROCHECK+ is able to use a wide range of eddy current probes meeting all the needs of the Aerospace Eddy Current Inspector. Absolute, bridge and reflection connected probes can use the industry standard 12 Way LEMO Connector and a LEMO 00 Connector is also provided for simpler connection of absolute probes.

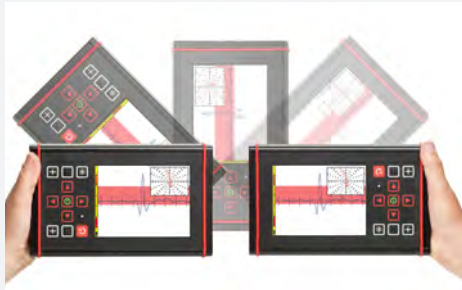


WIDE FREQUENCY RANGE

The dual frequency AEROCHECK+ offers 10Hz -12.8MHz, ensuring a diverse range of real world applications can be met.

Area of Inspection: Fasteners
Probe: Low Frequency, Slider

WORKS THE WAY YOU DO!



The AEROCHECK+ has the ability to work in left and right-handed mode; thanks to the "Auto Flip" function. This is not only helpful for left-handed

technicians but especially useful if the operator is inspecting in a restricted area like the Engine Mounts.

Area of Inspection: Engine Mounts
Probe: Surface

Engine Blades & Discs
Probe: High Frequency

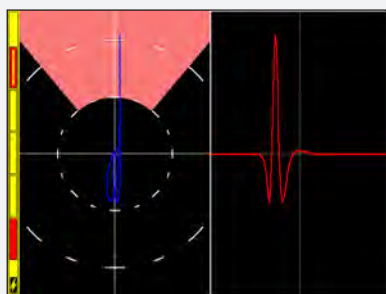
Area of Inspection: Wing Surface & Hinges
Probe: High & Low Frequency

LIGHTWEIGHT, RUGGED, "SURE GRIP" & ENHANCED PROTECTION

Weighing just 1.2kg (2.7lbs), housed in a tough aluminium alloy Mg Si 0.5 powder-coated outer case and fitted with rubber feet to aid grip, the AEROCHECK is as stable on a wing of an aircraft as it is on a laboratory bench.

The instrument has two integrated moulded "Sure Grip" handles on the rear of the case. The AEROCHECK+ has enhanced durability through a fully-fitted, custom-designed outer "protective boot" and integral hand-strap for even greater ruggedness and easier grip in use.





ROTARY CAPABILITIES AS STANDARD

Although the Military Kit does not encompass the rotary items, the AeroCheck+ is built with rotary capabilities. It can be used with the ETHER Mercury (mini) ARD002, Hocking 33A100 or the Rohmann MR3/SR1 and SR2 Drives (with special adapter cable).

Area of Inspection: Door Access Points & Window Frames

Probe: Rotary

DAYLIGHT READABLE, CLEAR, LARGE, CONFIGURABLE COLOUR SCREEN

The AEROCHECK+ has a large 14.5cm (5.7 Inches) LCD Colour Screen of 640 x 480 pixels providing the Operator with excellent signal resolution and presentation and with the choice of configuring their own colour schemes and display types. It is easy to optimise the screen presentation regardless of the light conditions and it is possible to view a choice of up to two spot, time-base, waterfall or meter display types.

Not all NDT inspection on aircraft takes place in the comfort of an aircraft hangar so the daylight readable display is readily viewable outdoors.

Area of Inspection: Bulkhead

Probe: Low Frequency



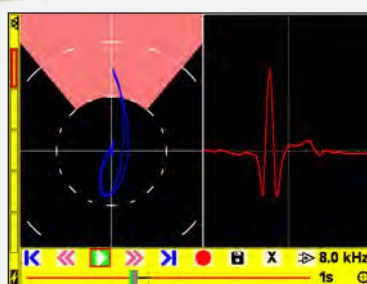
Area of Inspection: Horizontal Stabilisers

Probe: High & Low Frequency



Wheels, Wheel Brakes, Landing Gear

Probe: High Frequency, Rotary

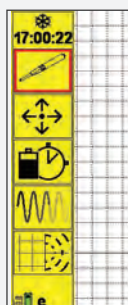


RECORD AND REPLAY

Up to 164 seconds of live data may be recorded in real-time and then played back either on the instrument or on a PC. Using the desktop application ETHERAnalyser for subsequent analysis and review. The recorded data may be further optimised by adjusting many settings including phase, gain, filters, display and spot position.

Area of Inspection: Fuselage

Probe: Surface & Sub-Surface



EASY TO USE MENUS & ICON SYSTEM

The AEROCHECK+ menu system is simple and fast to navigate with the ability to add individually selectable soft key menu items to the sidebar as recognisable icons for rapid function access and a quick setting menu for easy set-up, review and adjustment.

With four operator-selectable soft keys and a fifth slot for the last menu function used, Technicians can quickly set up the system with their preferences. Each saved instrument setting can be associated with a unique, single press set of quick access soft keys. There are also two front panel hard keys that can be readily programmed for rapid single press access to frequently used functions.

“ The AEROCHECK+ are supplied with a standard “Two-Year Manufacturers Warranty”. This covers all components of the Instruments and only excludes customer damage or misuse.

The “Two-Year Warranty” can be extended to “Five Years” through purchase of “Extended Warranty Protection.” ”

SPECIFICATIONS

AEROCHECK+		
Probe	Connectors Rotary	Simultaneous probe operation possible using Lemo 12 way and Lemo 00. 600-3000 rpm - ETHER Mercury Drive (ADR002), Hocking 33A100, Rohmann MR3, SR1 and SR2 Drive (special adapter needed)
Frequency		Dual Freq. = 10Hz - 12.8MHz
Gain	Overall Input Drive Max X/Y Ratio	-18 to + 100 dB, 0.1, 1 and 6dB steps (100dB maximum) 0dB or 12dB 0dB, 6dB and 10dB (0dB reference 1mW into 50 ohm). +/-100.0 dB
Phase	Range Auto Phase	0.0-359.9°, 0.1° steps Allows phase angle to be automatically set to a pre set angle
Filters	Normal High Pass Normal Low Pass	DC to 2kHz or Low Pass Filter, which ever is the lower in 1 Hz steps. Plus variable adaptive balance drift compensation 0.01 - 0.5 Hz (6 steps). 1Hz to 2kHz or a quarter of the lowest test frequency, which ever is lower in 1 Hz steps.
Balance	Manual Automatic	14 internal balance loads; 2.2μH, 5.0μH, 6.0μH, 6.5μH, 7.0μH, 7.5μH, 8.2μH, 12μH, 15μH, 18μH, 22μH, 30μH, 47μH, 82μH Optimised balance load selection.
Alarms	Box Sector Output	Fully configurable, Freeze, Tone or visual. Fully configurable, Freeze, Tone or visual. Open collector transistor (50v dc at 10mA max) available on 12 way lemo.
Display	Type Viewable Area Resolution Flip Colour Schemes Configurable Screen Display Modes Graticules Offset Digital Spot Position Readout Summary	5.7" (145mm), 18 bit Colour, daylight readable. 115.2mm (Horizontal) x 86.4mm (Vertical) 640 x 480 pixels Manual or automatic screen orientation change to enable left or right handed use. User configurable Dark, Bright and Black & White Full Screen, Single, Dual Spot or Dual Pane with variable size and location and function e.g. XY, Timebase, Waterfall and Meter. Spot, Time base (0.1-20 seconds x 1-200 sweeps and up to 55 seconds), Waterfall and Meter with peak hold and % readout. None, Grid (4 sizes 5, 10, 15 and 20% FSH), Polar (4 sizes 5, 10, 15 and 20% FSH) Spot Position: Y =-50 to +50, X =-65 to +65% Display in X,Y or R,θ
Removable Data Storage	Setup Storage Stored Screen Shots Record Replay	microSD up to 32GB, holding over 10,000 settings micro SD up to 32GB, holding over 10,000 screen shots Real-time recording of trace data and Replay on instruments and desktop PC up to 164 seconds
Outputs	PC Connectivity Digital volt free alarm VGA	USB (Full PC remote control plus Real Time data) On Lemo 12 way Open collector transistor (36v dc at 10mA max). Full 15 way VGA output
Languages		English, French, Spanish, Russian, Japanese, Chinese, Turkish.
Verification Level		The system includes on delivery a 2 year validity Verification Level 2 detailed functional check and calibration as per ISO 15548-1:2013
Power on Self Test		The system performs a self test on start up of external ram, sd ram, accelerometer, Micro SD card, LCD screen buffer.
Power	External Battery Running Time Charging Time	100-240 v 50-60Hz 30 Watts Internal 7.2V nominal @ 3100mAh = 22.32 watt.hr Up to 8 hours with a 2MHz Pencil Probe 30% Back Light and up to 6 hours with a Rotary Drive at 3000rpm 50% duty cycle. 2.5 hrs. charge time, Simultaneous charge and operation.
Physical	Weight Size (w x h x d) Material Operating Temp Storage Temp IP Rating	1.2 kg, 2.7 lbs. 237.5mm x 144mm x 52mm / 9.4" x 5.7" x 2.1" Aluminium alloy Mg Si 0.5 powder-coated -20 to +60 °C Storage for up to 12 months -20 to +35 °C Nominal +20 °C 54

AEROCHECK+ ADVANCED FEATURES

Advanced Features	Guides Attachments Loop Trace Data Output	Create and display a slide show containing instructions, tutorials and procedures using Microsoft PowerPoint. Screenshots and Data Recordings are saved in a folder with the name of the Settings. Capture a live repetitive signal and then optimise the instrument settings (Phase, Gain, Filters) to simplify optimising the parameters Allows a calibration reference signal to be stored on the screen and then compared with the live signal 6 channel real-time post processed over USB at 8kHz overall for all 3 data pairs (X, Y and Mix) with DLL for embedding functionality into software.
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CONDUCTIVITY SPECIFICATION

Frequency	One frequency only 60kHz standard (choice of 120, 240 and 480kHz)
Accuracy	0.5%-10% IACS better than +/-0.05% IACS 10%-25% IACS better than +/-0.25% IACS 25%-60% IACS better than +/-0.5% IACS 60%-110% IACS better than +/-1% IACS Lift Off corrected to 1.0mm No temperature compensation All Errors at 90% Confidence Level
Resolution	3 decimal points max Auto Resolution Mode AutoS = Legacy Instrument, Auto = SigmaCheck

MILITARY KIT - KIAERC02MIL

STANDARD AEROCHECK+ MILITARY KIT

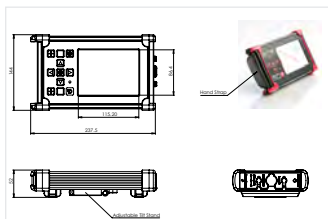
IAER002M Instrument, AeroCheck Plus, Dual Frequency (10Hz-12.8MHz), Hand Held Portable Flaw Detector, Software + Manual on CD
AWEL002 AeroCheck, Power Adapter + Input Plugs (UK, EU, US & Australia)
AAER001 Accessory, External, 8 x AAA Battery Holder
AWEL003 Adjustable Shoulder Strap, Padded with Quick-Release Clips
AAER002 Accessory, PELIE STORM iM2300 Case with foam in
ALLCX-M02-015A Accessory, Lead, Lemo 00 to Microdot, 1.5m (Vantage / ETi / WeldCheck / AeroCheck)
ALL12-B02-015A Accessory, Lead, Lemo 12-Way - BNC Plug, 1.5m (Absolute)
ALL12-L04-015B Accessory, Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Bridge)
ALL12-L04-015R Accessory, Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Reflection)
AAL12P-L07S Accessory, Adapter, Lemo 12-Way - Lemo 7-Way Socket (Hocking)
AAL12P-F08SR Accessory, Adapter, Lemo 12-Way plug - Fischer 8 - Socket (Rohmann Probes to Weld/AeroCheck)
ALL12-F08-020MET Accessory, Lead, Lemo 12-Way - Fischer 8-Way, 2.0m, Rohmann Minidrive to AeroCheck
AWEL008 Accessory, In-Car 12V Power Adapter (Weld/AeroCheck) (12V, 5.5 x 2.5mm Plug)
40584 Manual - A5 Portrait - AeroCheck+
A090 USB Cable - A to MINI B, 1m (Farnell: 1308878)
A246 CD, Software, MOD AeroCheck+
40463 Quick Reference Card - AeroCheck Plus



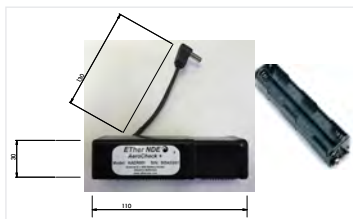
AEROCHECK+

WHAT IS INCLUDED IN THE AEROCHECK+ MILITARY KIT?

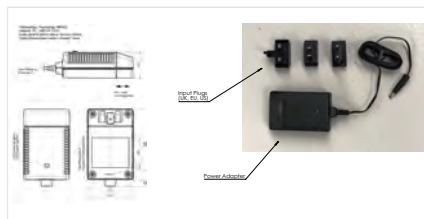
The following items listed outline what you can expect in the Military Kit. Please note that these images are not to scale.



IAER002M Instrument, AeroCheck Plus, Dual Frequency (10Hz-12.8MHz), Hand Held Portable Flaw Detector, Software + Manual on CD



AAER001 Accessory, External, 8 x AAA Battery Holder



AWEL002 AeroCheck, Power Adapter + Input Plugs (UK, EU, US & Australia)



AWEL003 Adjustable Shoulder Strap, Padded with Quick-Release Clips



40584 Manual - A5 Portrait - AeroCheck+



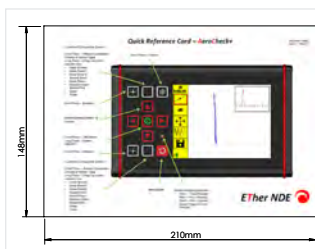
A246 CD, Software, MOD AeroCheck+



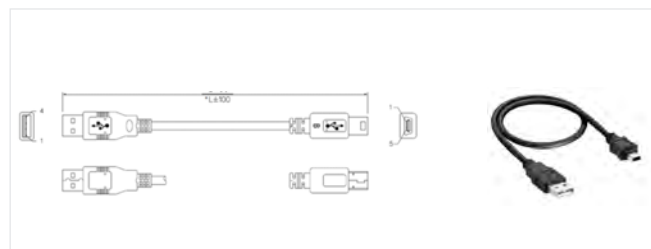
AWEL008 Accessory, In-Car 12V Power Adapter (Weld/AeroCheck) (12V, 5.5 x 2.5mm Plug)



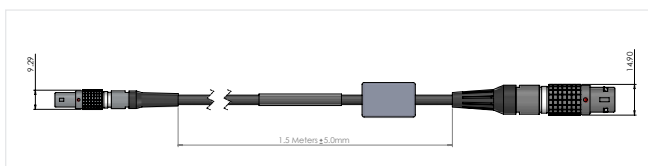
AAER002 Accessory, PELIE STORM iM2300 Case with foam in



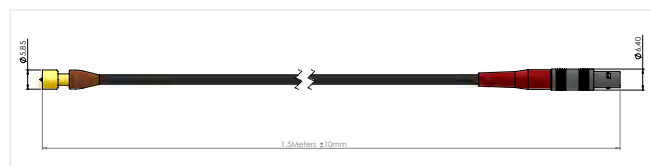
40463 Quick Reference Card - AeroCheck Plus



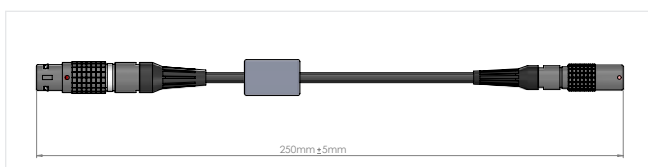
A090 USB Cable - A to MINI B, 1m (Farnell: 1308878)



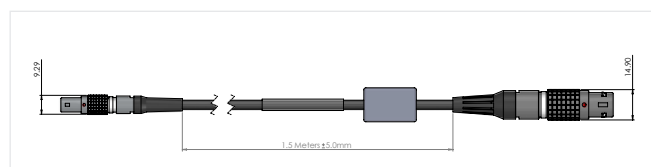
ALL12-L04-015R Accessory, Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Reflection)



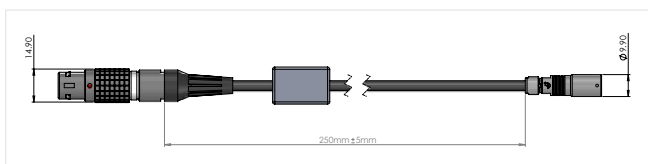
ALLCX-M02-015A Accessory, Lead, Lemo 00 to Microdot, 1.5m (Vantage / ETi / WeldCheck / AeroCheck)



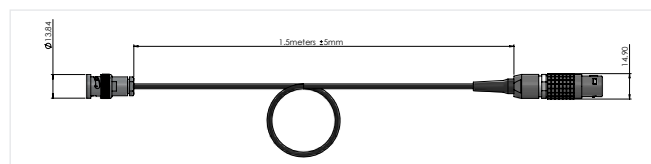
AAL12P-L07S Accessory, Adapter, Lemo 12-Way - Lemo 7-Way Socket (Hocking)



ALL12-L04-015B Accessory, Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Bridge)



AAL12P-F08SR Accessory, Adapter, Lemo 12-Way plug - Fischer 8-Socket (Rohmann Probes to Weld/AeroCheck)



ALL12-B02-015A Accessory, Lead, Lemo 12-Way - BNC Plug, 1.5m (Absolute)

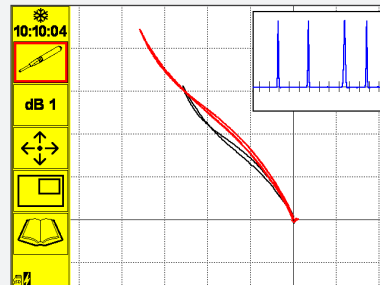
AEROCHECK+

The AEROCHECK+ offers great features including Dual Frequency and Conductivity Measurement, with useful additions such as Auto-Mix, Guides, Loop and Trace.

ADDITIONAL FEATURES AVAILABLE ON THE AEROCHECK+



GUIDES FEATURE: “Guides”, allows the user to display a slide show that can be created easily with commonly used desktop software. The benefit of this feature is that instructions, tutorials and procedures for an inspection can be added to the AEROCHECK+ very quickly and the NDT inspector can easily switch between the inspection itself and the “Guides” while performing a live test.

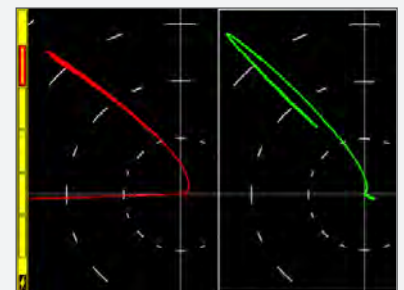


TRACE FEATURE: The trace function allows a reference waveform to be stored on the screen and appears along with the live spot. This allows the operator to readily compare the live data with the reference calibration.

“LOOP” FEATURE: “Loop” is a convenient way of capturing a short live repetitive signal and then optimizing the instrument settings through real time adjustments of the Phase, Gain, Balance, Filters and Display Configuration in order to simplify the task of optimising the parameters.

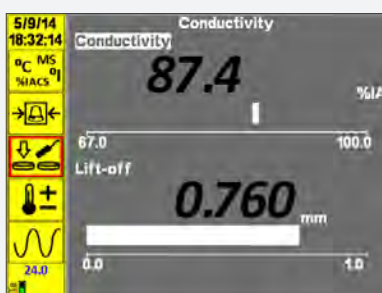
The “Loop” function is excellent for calibration set up especially for setting the filters for Rotary and Dual Frequency mix.

DUAL FREQUENCY FEATURE: At different frequencies, different signal indications (e.g. lift off and defect) have a different relative phase and amplitude response. By means of phase rotation and Gain change of the X Y signal components one of these indications can be manipulated to be almost identical in phase and amplitude as the other and then by subtraction (mixing), the unwanted component is minimised, giving an improved detection of the wanted signal.



AUTO-MIX FEATURE: A dual frequency mix exploits the phase and sensitivity change between two different types of indication to suppress one and enhance the other.

Auto-mix simplifies the sometimes complex procedure of mixing two different frequency signals and can be achieved on the AEROCHECK+ through a series of easy steps. Ultimately once set up, the Auto-mix itself is as simple as pressing one key.



CONDUCTIVITY MEASUREMENT: Many of the Aerospace procedures require that Conductivity Measurement is available on the designated Eddy Current Flaw Detector.

When connecting the Conductivity Probe, the AEROCHECK+ auto-detects the probe and seamlessly switches into conductivity mode. Removal of the probe switches the instrument back to flaw detection mode.

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