EDDY CURRENT FLAW DETECTORS

AeroCheck Single Frequency
AeroCheck+ Dual Frequency

AeroCheck - Single Frequency

AeroCheck+ - Dual Frequency Plus

- 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’ (AeroCheck+ only)

ETHER NDE

AeroCheck
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 single frequency AeroCheck has a frequency range of 20Hz to 20MHz, whereas 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

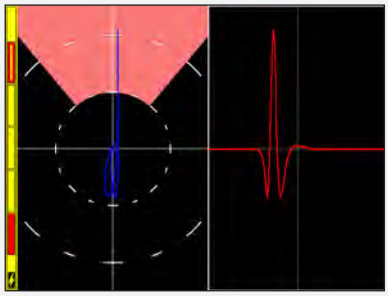
Area of Inspection: Wing Surface & Hinges
Probe: High & Low Frequency

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.

Both Instruments have 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 (this is an Option on AeroCheck).



ROTARY CAPABILITIES AS STANDARD

The AEROCHECK includes rotary capabilities as standard and 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.

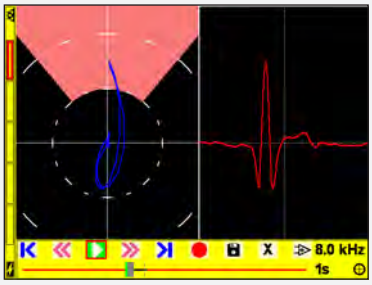
Not all NDT inspection on aircraft takes place in the comfort of an aircraft hangar so the daylight readable display is readily viewable outdoors.

Area of Inspection: Bulkhead

Probe: Low Frequency

Area of Inspection: Horizontal Stabilisers
Probe: High & Low Frequency

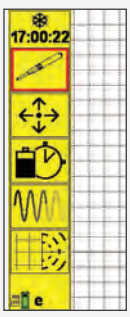
Wheels, Wheel Brakes, Landing Gear
Probe: High Frequency, Rotary



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.

"Both the AeroCheck and 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 "ETherCover" extended warranty protection."

Specifications

		AeroCheck	AeroCheck+
Probe	Connectors	12 Way Lemo 2b (Absolute, Bridge and Reflection) and Connection Lemo 00 (for single element absolute probes).	Simultaneous probe operation possible using Lemo 12 way and Lemo 00.
	Rotary	600-3000 rpm - ETher Mercury Drive (ADR002), Hocking 33A100, Rohmann MR3, SR1 and SR2 Drive (special adapter needed)	
Frequency		Single Freq. = 20Hz – 20MHz with range variable resolution.	Dual Freq. = 10Hz - 12.8MHz
Gain	Overall	-18 to + 100 dB, 0.1, 1 and 6dB steps (100dB maximum)	
	Input	0dB or 12dB	
	Drive	0dB or 6dB (0dB reference 1mW into 50 ohm).	0dB, 6dB and 10dB (0dB reference 1mW into 50 ohm).
	Max X/Y Ratio	+/-100.0 dB	
Phase	Range	0.0-359.9°, 0.1° steps	
	Auto Phase	Allows phase angle to be automatically set to a pre set angle	
Filters	Normal High 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).	
	Normal Low Pass	1Hz to 2kHz or a quarter of the lowest test frequency, which ever is lower in 1 Hz steps.	
Balance	Manual	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	
	Automatic	Optimised balance load selection.	
Alarms	Box	Fully configurable, Freeze, Tone or visual.	
	Sector	Fully configurable, Freeze, Tone or visual.	
	Output	Open collector transtor (50v dc at 10mA max) available on 12 way lemo.	
Display	Type	5.7" (145mm), 18 bit Colour, daylight readable.	
	Viewable Area	115.2mm (Horizontal) x 86.4mm (Vertical)	
	Resolution	640 x 480 pixels	
	Flip	Manual or automatic screen orrientation change to enable left or right handed use.	
	Colour Schemes	User configurable Dark, Bright and Black & White	
	Configurable Screen	Full Screen, Single, Dual Spot or Dual Pane with variable size and location and function e.g. XY, Timebase, Waterfall and Meter.	
	Display Modes	Spot, Time base (0.1-20 seconds x 1-200 sweeps and up to 55 seconds), Waterfall and Meter with peak hold and % readout.	
	Graticules	None, Grid (4 sizes 5, 10, 15 and 20% FSH), Polar (4 sizes 5, 10, 15 and 20% FSH)	
	Offset	Spot Position: Y =-50 to +50, X =-65 to +65%	
	Digital Spot Position Readout	Display in X,Y or R,θ	
	Summary	Display of all settings in Legacy Format	
Removable Data Storage	Setup Storage	microSD up to 2GB, holding over 500 saves.	micro SD up to 32GB, holding over 10,000 settings)
	Stored Screen Shots	microSD up to 2GB, holding over 500 saves.	micro SD up to 32GB, holding over 10,000 screen shots)
	Record Replay	Comprehensive Record Replay and Storage Real-time recording of trace data and Replay on instruments and desktop PC up to 164 seconds	
Outputs	PC Connectivity	USB (Full PC remote control plus Real Time data)	
	Digital volt free alarm	On Lemo 12 way Open collector transistor (36v dc at 10mA max).	
	VGA	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	100-240 v 50-60Hz 30 Watts	
	Battery	Internal 7.2V nominal @ 3100mAh = 22.32 watt.hr	
	Running Time	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.	
	Charging Time	2.5 hrs. charge time, Simultaneous charge and operation.	
Physical	Weight	1.2 kg, 2.7 lbs.	
	Size (w x h x d)	223 x 141 x 50 mm / 8.8 x 5.6 x 2.0 inches	237.5mm x 144mm x 52mm / 9.4" x 5.7" x 2.1"
	Material	Aluminium alloy Mg Si 0.5 powder-coated	
	Operating Temp	-20 to +60 °C	
	Storage Temp	Storage for up to 12 months -20 to +35 °C Nominal +20 °C	
	IP Rating	54	

AeroCheck+ Advanced Features

Advanced Features	Guides	Create and display a slide show containing instructions, tutorials and procedures using Microsoft PowerPoint.
	Attachments	Screenshots and Data Recordings are saved in a folder with the name of the Settings.
	Loop	Capture a live repetitive signal and then optimise the instrument settings (Phase, Gain, Filters) to simplify optimising the parameters
	Trace	Allows a calibration reference signal to be stored on the screen and then compared with the live signal
	Data Output	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.

Conductivity Specification (AeroCheck+ Only)

Frequency	One frequency only 60kHz standard (choice of 120, 240 and 480kHz)
Acccuracy	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

Equipment Kits

Standard AeroCheck Series Kit

IAER001 Instrument, AeroCheck, Single Frequency (20Hz-20MHz), Hand Held Portable Flaw Detector, Software + Manual on USB Stick
AWEL002 AeroCheck, Power Adapter + Input Plugs (UK, EU, US & Australia)
AWEL003 Adjustable Shoulder Strap, Padded with Quick-Release
AC006 Instrument Soft Carry Case
A090 USB Cable, A to MIN B
40449 Quick Reference Card – AeroCheck
ALLCX-M02-015A Lead, Lemo 00 to Microdot, 1.5m (Absolute)
ALL12-L04-015R Lead, Lemo 12-Way - Lemo 4-Way (Reflection)

Optional Accessories

AWEL004 Hard Transit Case
AWEL005 Protective Splash Proof Cover / Rope Access (AeroCheck only)
AWEL006 External, 8 x AA Battery Holder with On/Off Switch
AWEL007 Wrist Strap
AWEL008 In car Power Adapter
ALL12-L04-015R Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Reflection)
ALL12-L04-015B Lead, Lemo 12-Way - Lemo 4-Way, 1.5m (Bridge)
ALLCX-M02-015A Lead, Lemo 00 to Microdot, 1.5m (Absolute)
ALLCX-B02-015A Lead. Lemo 00 to BNC, 1.5m (Absolute)
ARD002 Mercury (mini) Rotary Drive
ALL12-L12-020M Lead to connect Mercury (mini - ARD002) Rotary Drive, Lemo 12-Way, 2m
ALL12-F08-020ETH Adapter, lead to connect Rohmann Rotary Drive MR3, SR1 and SR2, Lemo 12-Way, 2m.
40470 Tripod Bracket To fit 1/4" Camera Tripod Mount with Male Screw
AAER003 Enhanced protection kit with hand strap(AeroCheck+ only)
A244 Hand Strap for Enhanced Protection Kit (AeroCheck+ only)

Probe Kits

KASUR001 KIT Surface Inspection (4 probes, lead and Al and Fe Test Block)
KASUBS001 KIT Sub Surface Inspection, Low Frequency (2 probes, lead and test piece)
KAROT001 KIT Mercury Rotary Drive and Cable Only
KACON001 KIT Conductivity Kit (Probe, Calibration and Cable) - (AeroCheck+ only)

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RSL
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AeroCheck
AeroCheck+

"The AeroCheck offers the right mix for features for any Eddy Current application need in an easy-to-use package designed entirely with the end user in mind."

All Possible Applications Covered!

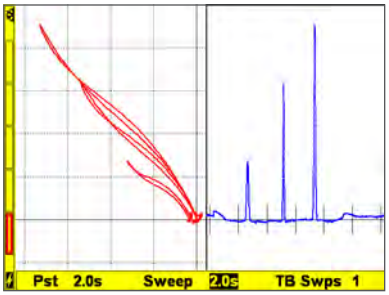
The AeroCheck and AeroCheck+ offers maximum flexibility when deciding which features are needed for your application. As well as the hand-held WeldCheck, AeroCheck and AeroCheck+ instruments, the range also includes the Victor 2.2D for inline component testing solutions.

Key Differences

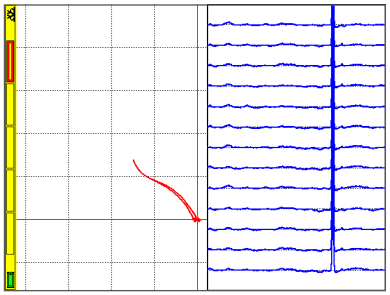
Equipment	Features								
	Rotary	Data Recording	Dual Frequency With Auto-Mix	Conductivity	Guides	Loop	Trace	Enhanced Protection	Frequency
AeroCheck	●	●						✳	20Hz-20MHz
AeroCheck+	●	●	●	●	●	●	●	●	10Hz-12.8MHz

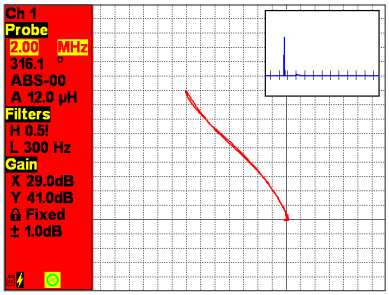
● = As Standard ✳ = Optional Extra

Exceptional Screen Clarity For Any Application

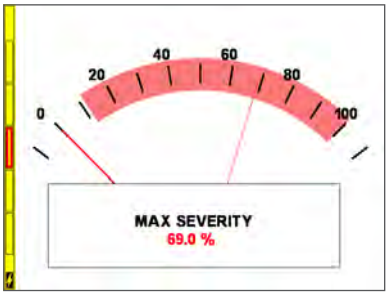


50/50 XY & Timebase

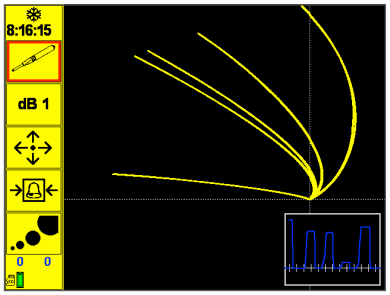

50/50 XY Waterfall with 12 2s time sweeps



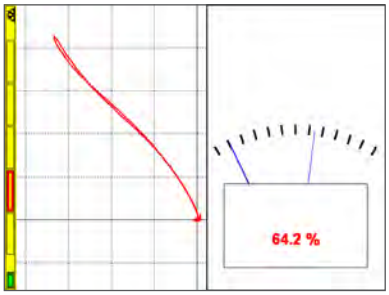
XY with small timebase and Quick Menu



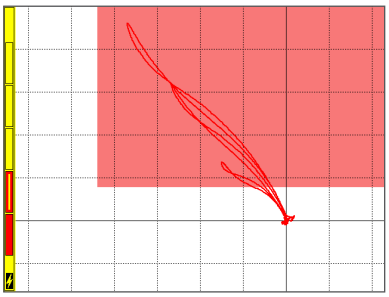
Meter Full Screen

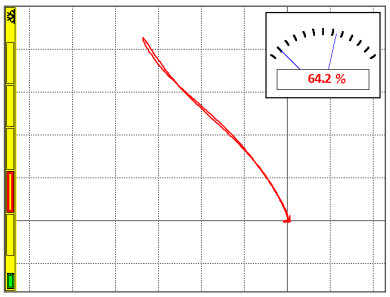


Dark background polar graticule and soft-keys

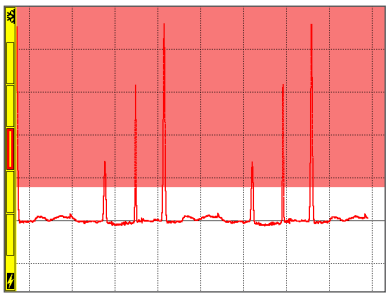


XY and Meter 50/50


XY Full screen with Box Alarm



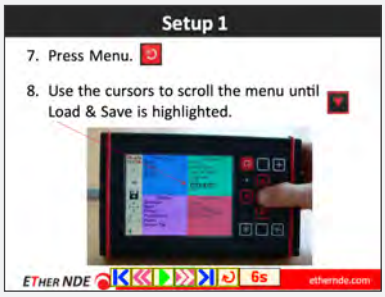
XY with Small Meter


Timebase Full Sceen with level arm

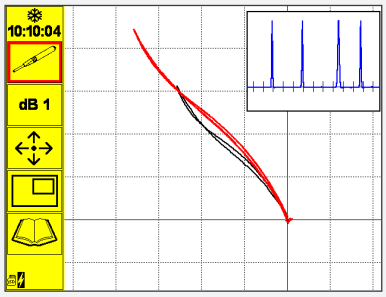
AeroCheck+

The AeroCheck+ offers all the great features of the AeroCheck plus 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.

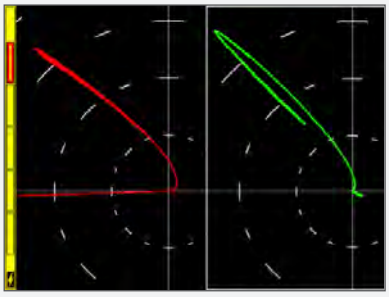


Trace Feature: The trace function allows a reference waveform to be stored on the screen and appears along with the graticule behind the live spot. This allows the operator to readily compare the live data with the reference calibration.

"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.

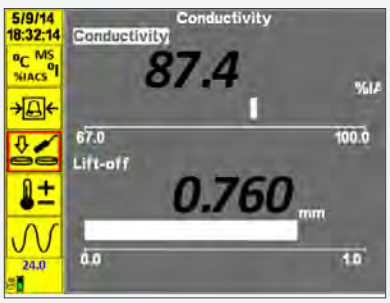
The "Loop" function is excellent for calibration set up especially for setting the filters for Rotary and Dual Frequency mix.

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 supress 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.

NB: The Conductivity Measurement Option is available through the purchase of the KACON001 KIT.