WE DEVELOP

Extras

The Smart UE1 is referenced in 185 NTM procedures to maintain Airbus aircraft.

TESTIA
AN AIRBUS COMPANY

SMART UE1

New generation

Inspection's Swiss army knife: multi-method aerospace-dedicated tool boosting efficiency in all your daily operations.

Multi-method (UT, ET & resonance) single-channel and multi-application instrument for efficient, flexible and reliable inspections.

Benefits

Reliability & accuracy

- Inspection tool designed for aerospace, manufacturing and MRO operations.
- Inspect confidently with a device referenced in Airbus documentation.
- Assisted reporting avoiding dual entries and human errors.
- Get the level of results requested in the aerospace sector thanks to repeatability.

Traceability

- Expand capabilities with a digital continuity brick between acquisition and reporting.
- Share accurate reports thanks to assisted reporting capabilities.
- Recording of signals triggered by time or position encoders for UT and ET.
- Compatiblity with most scanners, including Testia Smart Scan.
- Enhanced data analysis with optional NDTkit UT software.

Performance

- New powerful hardware that improves connectivity, performance and efficiency with the newer Intel Core processor.

Ergonomy

- Portable and light-weight inspection tool with large touchscreen display.
- It can replace up to 7 inspection instruments, including UT flaw detector, ET flaw detector, thickness gauge, thickness gauge direct, galvanometer, clad detector, resonance tester
- Screen mirroring functionality available with a smartphone.

Flexibility

- Multi-method device for multiple inspection tasks.
- Applications for B1 engineers and NDT specialists.
- Modular functionality: choose the application you need, with the option to add more when you need it.

Efficiency

- Share reports easily with multiple connectivity options (Bluetooth / Wi-Fi / 5G*/ LAN).
- Speed-up inspections with assisted data analysis
- Avoid delays thanks to our Remote Assistance optional software.
- Windows environment ready for connecting with your software.
- Hot Swap function to easily replace the battery without turning off the tablet.

*SIM card is not included

WE DEVELOP

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AN AIRBUS COMPANY

SMART UE1

Multi-method inspection tool

Tougher than ever, now with enhanced ergonomics!

New metal housing for UT/ET module

Improved ruggedness to shield the "NDT core" of the Smart UE1 Evo.

New corner bumpers

Extra protection for the Smart UE1 Evo in the event of shocks or falls.

Multi-position handlebar

Allows you to place the Smart UE1 Evo on any surface at the most suitable angle with a firm support.

Multi-axis clamping tool

Enables hands-free inspection with versatile mounting options (flat surfaces, round tubes) and flexible angle adjustment for durability and scratch resistance.

New FOD-preventing case with wheels

The FOD-preventing carrying case ensures a safe and clean working environment. It minimizes the risk of contamination from foreign object debris during inspections.

New touch screen

10.1-inch display with enhanced brightness for better visibility outdoors and glove-enabled.

Buttons for direct access

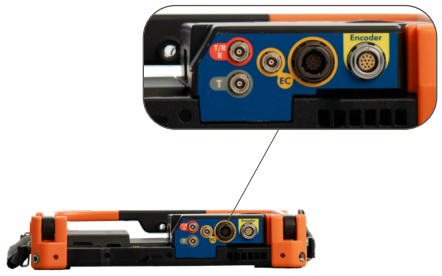
3 preset buttons for quick access to the main functionalities for each application.

Built-in impedance module

No more impedance adaptors! Simplifies the set-up for ET inspections and helps to prevent FOD.

3rd Lemo 00 connector for ET probes

Eases the use of cables and accessories with the Smart UE1 Evo through compatibility with standard connectors. New control to the ET app to select the output to be used according to the probe.



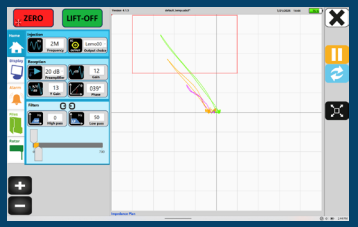
WE DEVELOP

SMART UE1 & UE1 BOX APPS

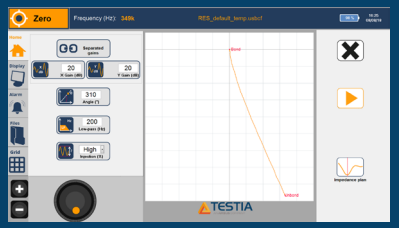
APPS, BASED ON THE SDK

UT

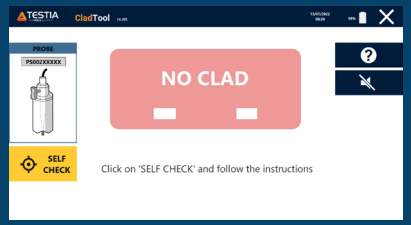
ET (+ rotary inspection)



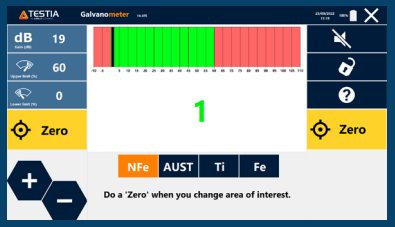
Resonance



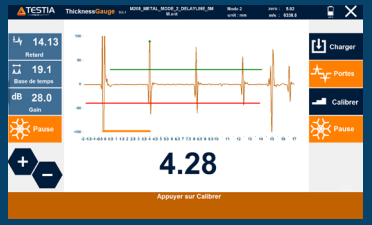
Clad Tool (ET)



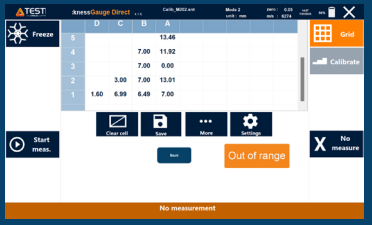
Galvanometer (ET)



Thickness Gauge (UT)



Thickness Gauge Direct (UT)



With the Smart UE1 Evo you get all the apps for free trial during one month!

WE DEVELOP

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General specifications

PHYSICAL CHARACTERISTICS

Type of instrument	Mobile
Channel	Multi-method single-channel
Size	310 mm*215 mm*55 mm
Weight	2,3 kg
Protective material	Metallic
Drop resistance	MIL-STD 810H, 180cm***

POWER & ENERGY

Type(s) of power supply/AC adaptator	100 VAC-240 VAC-50-60 Hz Output: 15.6 V DC, 7.05 A
Maximum power consumption	<110 W
Battery type	Standard: Li-ion 11.4V, 4360mAh Min. (50Whr) Extended: Li-ion 10.8V, 6300mAh Min. (68Whr)
Number & type of batteries	1 main battery (Li-ion) + 1 internal battery for rotor functions
Battery operational time	Approx. 4 to 8 hours depending on the usage
Low battery voltage indication	LED

ENVIRONMENTAL & DURABILITY SPECS

Storage and transport	0°C to 45°C (with batteries) / -20°C to 70°C (without batteries)
Warm-up time	2 minutes
Operating temperature & humidity	STM, -10 °C to 50 °C 30 %RH to 80 %RH
Environment and vibration ranges for normal use	Indoor & outdoor Altitude<2000 m
Protection grade	IP65

DISPLAY & INTERFACE

LCD display	10.1» Active Matrix (TFT) colour LCD 1920 x 1200 (WUXGA) LCD with sunlight-viewable glove-enabled capacitive touchscreen (Up to 1.000cd/m2), IP55 Digitiser
Screen size	10.1"
Screen resolution	1920 pixels*1200 pixels
Languages	English, German, French, Spanish and Chinese

HARDWARE SPECIFICATIONS

Processor	Intel® Core™ Ultra5 135U
Operating system	Windows 11 Pro or highter
RAM	16GB DDR5
Storage capacity	512GB OPAL NVMe SSD
Type(s) of instrument sockets	UT : Lemo 00 (x2) (Single or Dual element) / TTU ET : Lemo 00 (Absolute mode) / Fischer 16 cts (differential) Encoder : Fischer 12 cts
Encoders	4 encoders (TTL, quadrature encoders, Imax (output)=0,1A)

CAMERA & AUDIO

Front camera	2 MP / privacy shutter (Windows Hello compliant)
Rear camera	8Mpixel with autofocus and LED flash
Sound	Intel® High Definition Audio subsystem support, Stereo speaker

CONNECTIVITY

Connectivity	USB-A 3.1, USB-C, bluetooth, wifi, LAN, 5G*

COMPLIANCE & STANDARDS

CE marking	yes
Conformity with 22232-1	yes
Conformity with 15548-1	yes
Electromagnetic compatibility (EMC) regulations	yes

*SIM card is not included

WE DEVELOP

TESTIA
AN AIRBUS COMPANY

SMART UE1

Standard kit

Accessories	Quantity
FOD-preventing carrying case with wheels	1
Smart UE1 EVO	1
Battery	2
Portable charger	1
Box for accessories	2
Multi-axis clamping tool	1
AC adaptor	1
Set of AC plug adaptors	1
USB key 16 Gb	1
Microfiber cleaning wipe	1
Operating manual	1
Certification of verification (calibration)	1

Probes and cables are not included in the kit.
You need to order them seperatly.
For any quote request click here.

Compatible technological bricks

NDTkit UT

Automated software for processing large volumes of data from various ultrasonic testing instruments.

Remote Assistance

Web-based platform designed for real-time, multi-channel, secure communications.

Smart Scan

Multi-method precision scanning system for small and medium parts.

DISPLAY

Time base delay range	0 µs to 1000 µs step 0,1 µs
List of available views	A-scan; B-scan; amplitude C-scan; time-of-flight or thickness C-scan
Screen refresh rate for A-scan presentations	60 Hz
Maximum digitalization frequency without processing	96 MHz
Digitizer vertical resolution	14 bits

INPUT AND OUTPUT

Number & characterictics of encoder inputs	4, quadrature

TRANSMITTER

Shape of transmitter pulse and, where applicable, polarity	Negative square
Transmitter voltage, pulse rise time, fall time and duration	20V to 200V step 1V RT : <10 ns at 80V / 50ohms FT : <8ns at 150V / 50ohms PW : 35ns at 1,25 µs
Output impedance	1ohm +/-50%

RECEIVER

Characteristics of the gain control, i.e. range in decibels, value of increments	5 to 80 dB - step 0,1 dB
Input voltage at full screen height (FSH)	1,5 V (20%) at 5 dB
Maximum input voltage	1,5 V
Linearity of vertical display	<2% FHS
Frequency response	4 bandpass (1-20 MHz / 4-20 MHz / 2-8 MHz / 0,5-3 MHz)
Dead time after transmitter pulse	80 nV/(Hz)^1/2
Time-corrected gain (TCG)	80 dB (analog gain included)
Gain linearity	<0,5dB [+5db-+60dB] - <1dB [+5db-+80dB]

DATA ACQUISITION

Transfer rate between the instruments and the external storage units	USB C
Maximum number of A-scans stored per second	1000 (maximum PRF)
Maximum number of C-scans stored per second	10000 (2x5 gates x PRF)
Maximum number of samples per A-scan	7664

GATES

Number of gates	5
Threshold operation	Coincidence or anti-coincidence
Measurement mode	first/maximum/last/zero crossing/first absolute/maximum absolute/last absolute/ zero crossing absolute
Synchronization of gates	Pulse, G0, G1, G2, G3
Characteristics of gates	Threshold, position, duration, unit, velocity
Resolution of measurements	0,01 µs
Trigger of alarms	One gate (Superior, Inferior, MinDepth, NoCrossing)
Linearity of the amplitude in the gate	Digital gate
Linearity of the time-of-flight in the gate	Digital gate

SIGNAL PROCESSING

Averaging	1-10
Fast Fourier transform (FFT)	Yes
Rectification	Yes
Envelope	No
Compression	No
Dimensional measurements	Yes

OUTPUT

Type(s) of instrument sockets	Lemo 00 (Absolute mode) Fischer 16 cts (differential) Fischer 12 cts (encoder)

TRANSMITTER

Type	Analogue
Excitation/Channel	Single-channel
Mode	Manual/Remote control
Type of generator	Voltage
Voltage	up to 5 Vpp
Frequency	800 Hz to 6 MHz
Stability against voltage variations	Yes
Type of excitation	Single
Frequency setting (range, step size, deviation from nominal value)	800 Hz to 6 MHz step 1 Hz deviation max =+/-0,4%
Harmonic distortion	k<1% (F<100kHz), k<3% (F<6MHz)
Amplitude setting (range, step size, deviation from nominal value, maximum output voltage)	0% to 100% step 1% maximum output voltage up to 5 Vpp
Source impedance with frequency dependence	Excitation with 100 Ohm = 92,9 Ohm Excitation output = 2,3 Ohm Excitation output = 3,1 Ohm

RECEIVER

Input impedance with frequency dependence	9,5 kohm
Gain setting range, step size, deviation from nominal value	0 dB to 60 dB step 0,5 dB
Maximum input voltage	Up to 1,4 V
Maximum input range, which can be compensated	1,2 V
Residual value at balance	V = 50 mV
Frequency	800Hz to 7,5MHz
Gain	Pre-amplifier: 6-12-20 dB
Bandwidth at 3dB attenuation	Filter 1: 800 Hz - 56 kHz Filter 2: 12 kHz - 400 kHz Filter 3: 104 kHz - 7,5 MHz

DEMODULATED SIGNAL PROCESSING

Wave shape of the reference signal	Sinusoidal
Frequency	1 Hz to 2000 Hz step 1 Hz
Gain	38 dB to 60dB step 0,5 dB (digital)
Bandwidth at 3dB attenuation	1 Hz to 2000 Hz
Phase settings (Range, step size)	1° to 360° step 1°

OUTPUT AND SIGNAL DISPLAY

Type of display	Screen
Type of presentation	Impedance plane or X/Y stripcharts or Y(t)
Size	+/-200%
Graticule divisions, major and minor	20%
Full-scale-display voltage range or time range	1,4V - 5s

DIGITIZATION

Stage of digitization in the signal processing	Before demodulation
Digitization technique	ADC
A/D resolution	14 bits
Sampling rate	48MHz

WE DEVELOP

Extras

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TESTIA
AN AIRBUS COMPANY

SMART UE1

Inspection's Swiss army knife: multi-method aerospace-dedicated tool boosting efficiency in all your daily operations.

A380

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