MIDLAND METROLOGY LTD

iFlaw-80

Ultrasonic Flaw Detector

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Product Features and Application

Product Features

●The body is lightweight and suitable for one-handed operation.
●PD65W fast charge + 12 hours long battery life.
●5.0-inch IPS high-definition display with a brand new UI interface.
●Support full-screen touch, quick gesture operation, virtual keyboard, easy to use
●With DAC, AVG, automatic gain, peak memory, color half-span, B-scan and other professional functions.
●Including Chinese and English switching, data export to SD card, online upgrade, screen capture and many other practical functions.

Product Application

●Mechanical manufacturing: Testing mechanical equipment components and large castings and forgings
●Petrochemical industry: Used for equipment such as pipelines and pressure vessels
●Aerospace: Flaw detection for key components of aircraft and spacecraft
●Steel structure inspection: Inspect welds, bolt connections, and other parts
●Concrete structure inspection: Exploring defects such as cracks and voids
●Track inspection: Flaw detection of steel rails
●Vehicle detection: Detecting key components of trains, subways, and other vehicles
●Special equipment testing: Flaw detection for boilers, elevators, etc
●Cultural relic preservation: To inspect the internal structure of cultural relics, providing solutions for restoration without damaging their appearance.

Instrument Interface

1.SD card slot **2.Mini USB data interface**
3. Charging interface/Type-C data interface

1.Power switch **2.B-scan trolley encoder interface** **3.Receiving interface**
4.Transmitting interface

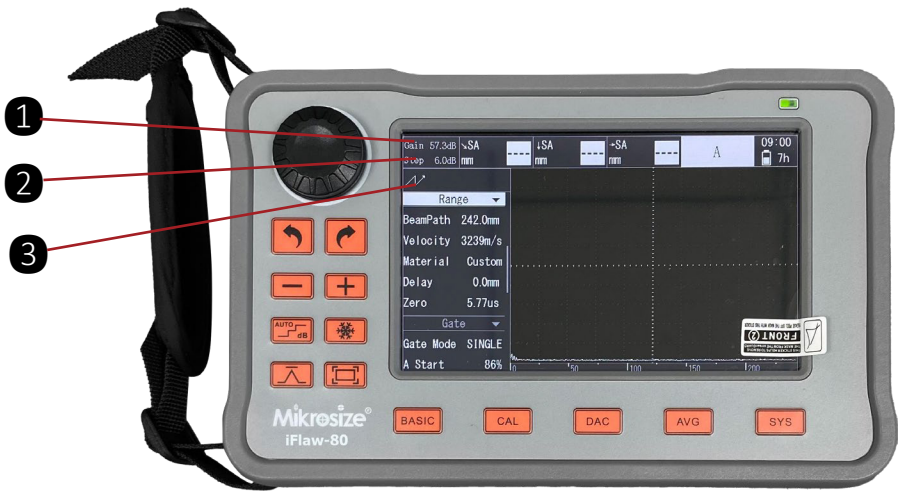
Button Function

1.Shuttle key 2.Function keys/Shortcut keys 4.Status indicator light 3.Menu key (Green light: Normal operation, Red light: Charging)

Button Function

1. **Long press for recording function / Short press for freeze function (to hold the displayed waveform on the screen)**
2. **Automatic peak button (default at 80%)**
3. **Long press for screenshot function / Short press for full-screen waveform display function**
4. **Long press for gate expansion function / Short press for peak memory function**
5. **Shortcut key for basic menu**
6. **Calibration menu: Sound velocity + Zero point, shortcut key for angle calibration menu of angle beam probe**
7. **DAC curve menu key**
8. **AVG curve menu key**
9. **Shortcut key for system settings menu**

Interface Display



1.Current Total Gain Value **2.Current Gain Step** **3.Status Display**

Parameter Menu **2.Measurement Value Display**
13.Current Time and Battery Level Display

Curve Display

DAC Curve

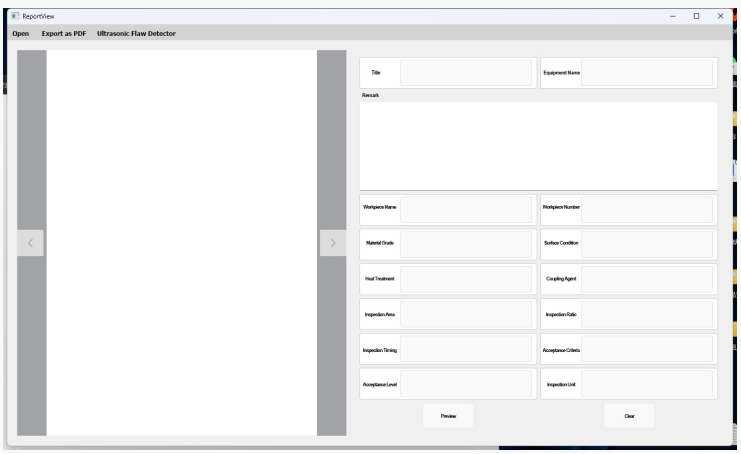
●The DAC curve includes RL (rejection line), SL (quantification line), and EL (evaluation line)
High quantitative accuracy;
●Adjustable detection sensitivity;
●More precise defect localization;
●The comparability of the results is strong;
●Convenient quality control

AVG Curve

●AVG curve only supports the use of straight probes
●Accurate quantification of defects
●High detection sensitivity
●Defect localization assistance
●Good reproducibility of results
●Widely applicable
●The AVG curve can provide distance information between the defect and the probe. By measuring the arrival time of the defect echo and combining it with the known sound velocity, the position of the defect can be calculated

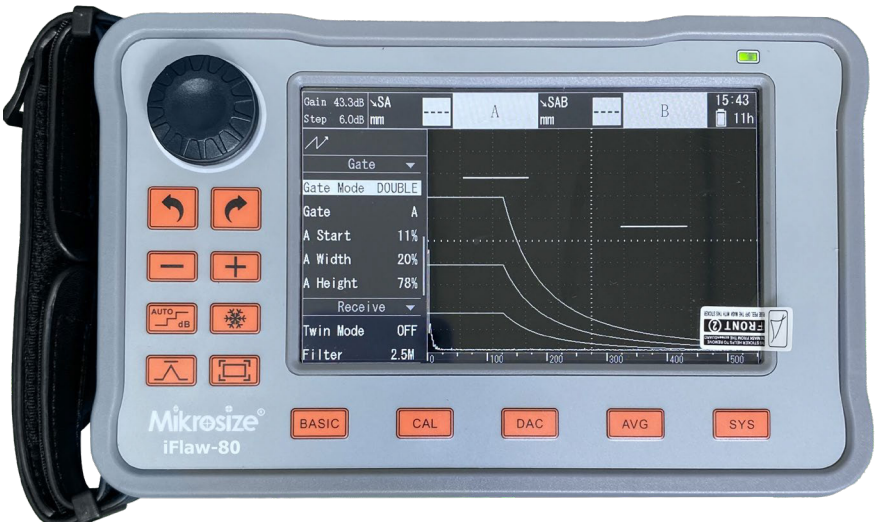
Data Storage

After recording and taking a screenshot, you can set the file name and preview the content. It is possible to generate an inspection report and transfer it to computer software, where you can set parameters in the inspection report (such as testing unit, workpiece name, workpiece number, etc.).



Set the USB flash drive mode on the instrument; connect it to the computer via the Type-C data cable interface, and you can use the software to edit the content of the inspection report results. PDF files can be generated.

Gate Setting



Single or double gates can be set in the basic menu.

Double gates can enhance the accuracy and flexibility of detection, improve detection efficiency, and facilitate data analysis and recording.

Double gates can be flexibly set according to different inspection standards and workpiece characteristics. By adjusting the width, height, and position of the gates, they can adapt to defect detection of different sizes and shapes.

Double gates can simultaneously monitor multiple areas, enabling quick location of potential defects. This allows flaw detection personnel to complete inspections of workpieces in a shorter period, thereby improving inspection efficiency.

Technical Parameters

Bandwidth	0.1MHz~20MHz
Gain	120dB,pace 0.1dB,0.6dB,1dB,2dB,6dB
Wave filter	Broadband,1M,1.25M,2.5M,5M,10M,15M,1M-5M
Sampling rate	Hardware sampling rate 100MSPS,equivalent sampling rate 400MSPS
Detection mode	Full wave, positive half wave, negative half wave, RF, envelope
Detection range	10 meters (longitudinal wave carbon steel),pace 100mm、10mm 、0. 1mm
Pulse mode	Sharp pulse, square wave, dual-square wave
Pulse voltage	25V~300V , 25V pace
Pulse width	0ns~500ns continuously adjustable,5ns pace
Emission damping	Strong(100Ω),weak(1000Ω)adjustable
Pulse frequency	Automatic or manual, automatic range(200Hz-1KHz),manual range(0-10KHz)
Probe channel	200 groups, supporting operations such as creating, previewing, deleting, renaming, overwriting, and restoring
Gate alarm	Gate A and B alarm, lost wave/incoming wave
Gate mode	Independent gate A, gate B
Measurement mode	Peak, Front edge, J Front edge
Quantitative mode	DAC curve ,AVG(DGS) curve
Flaw detection standards	AWS D1.1/D1.5,NB/T 47013,GB/T 29712,GB/T 11345
Saving content	Single frame, multi-frame recording (≤ 500 frames), screenshot,flaw detection report
Auxiliary functions	Automatic gain, peak memory, waveform freezing, channel management, gate alarm, gate expansion, automatic gate, full screen touch, virtual keyboard, color half span, quick screenshot
Display screen	High definition 5.0 inch 800×480 IPS_LCD
Probe interface	Dual LEMO-00 C5
Output interface	Type-C,MINI USB
Data storage	8GB SD card
Charger	PD fast charging ,standard Type-C interface(100～240V,50～60Hz)
Size	183mm×113mm×45mm
Weight	700g,including battery but not rubber sleeve
Language	Chinese, English
Unit	Metric system ,Imperial system
Battery	7.4V 8000mAh Lithium battery, 12 hours of battery life
Operation temperature	-10℃~55℃
Resolution ratio	40dB(Metrological performance requirements: ≥26dB)
Dynamic range	32dB(Metrological performance requirements: ≥26dB)
Sensitivity margin	50dB(Metrological performance requirements: ≥42dB)
Vertical linearity	1.8%(Metrological performance requirements: ≤6%)
Horizontal linearity	0.5%(Metrological performance requirements: ≤2%)

Standard Delivery

Items	Qty	
Host	1	
Probe (high-precision straight probe, angle probe)	1	
Probe line	1	
Charger	1	
Power line	1	
User manual	1	
Certificate	1	
Warranty card	1	
SD card(8G)	1	
Conversion plug (USB to C)	1	

Optional Delivery

Items	Qty	
SD card(16G, 32G, 64G)	1	
Power bank	1	