

AFD850 Digital Ultrasonic Flaw Detector



Introduction

This portable digital ultrasonic flaw detector is a color TFT LCD display, reflecting the most advanced technology, light and small size of the weight of the instrument, only 1.4Kg., Which featured not only a superior digital ultrasonic flaw detector, is a square wave generator, and also as an image of the detection equipment, and is equipped with a variety of interfaces, to meet user needs a variety of detection.

The instrument's color TFT LCD screen, even in direct sunlight glare environment, but also clearly show high-resolution B-scan, TOFD sweep and other image-based waveform; instrument uses the domestic industry-leading tunable square wave excitation technique for detection of high attenuation or a thick piece has good penetration and SNR; unique interface provides the user with the instrument as a separate square-wave generator uses; high-speed network interface provides remote data transmission and control function; high-speed USB host interface can not only high-capacity external storage devices such as USB mouse can also be connected to an input device to facilitate the efficient analysis of the image of the waveform; two-dimensional incremental encoder interface, the unique design allows either redundant instruments used in voltage or current-type encoder can be as to achieve the detection position, obtain excellent B ultrasonic waveform sweep or TOFD image.

Features:

1. The maximum sampling rate of up to 640MHz, the measurement resolution 0.1mm, minimum range 2mm.
2. Operating frequency 0.5MHz ~ 20MHz, sensitivity margin of up to 62dB, low frequency there is a better signal to noise ratio.

3. High brightness, high-resolution (800x480) color TFT LCD display, the best reading test results.
4. High-performance pulse square wave generator with adjustable options, and the probe to achieve the best match (non-inductive coil probe can be achieved excellent incentive), high attenuation material either detect or thin work pieces can bring optimal performance.
5. Small size, light weight, battery, can work for more than eight hours.
6. With LAN network interface, remote instrument control and data transmission. When the instrument is as a square wave transmitter, it can provide control of the instrument parameters.
7. Two-dimensional incremental encoder interface for accurate position detection imaging (B, TOFD sweep).
8. Simultaneous analog RF waveform output, output impedance 50Ω , can be used as source data acquisition and probe tests.
9. High-speed USB interface to an external U disk data storage and dump.
10. Built-in charging function; battery and DC power supply automatically detects the display; charging, automatic switching power supply, charging temperature dual protection.
11. A variety of software features, covering all aspects of testing; unique originality universal knob to adjust the way to make testing more easily worry; humanized menu design, Chinese and English language menus
12. Automatic test probe frequency, automatically optimizing the width of the square wave, with the probe and optimal instrument.
13. Images of the thickness of the alarm function, waveform storage function and a variety of continuous waveform measurement mode.
14. Fixed index measuring instruments function and waveform envelope function to achieve the peak memory.

Specifications

Items	Parameters
Transmitted Pulse	Square wave, Emitter voltage of 25V ~ 400V continuously adjustable, Stepping 25V, Continuously adjustable width 30ns ~ 1000ns, Continuously adjustable width 30ns ~ 1000ns, Stepping 5ns. Under $400 \Omega / 200V$, both edges of less than 10ns, Automatic optimization for high-frequency excitation pulse.
Work Mode	Single, double, penetration
Launch Damping	400,100 Ω
Operating Frequency	0.5 ~ 20MHz, broadband and narrowband two types
Gain Range	0.0 ~ 110.0dB

Gain Step Value	0.1, 1.0, 2.0, 6.0 dB. 0.1dB gear acceleration provides intelligent regulation
Velocity Range	1000 ~ 15000 m / s. Continuously adjustable in steps of 1, 10, 100m / s. Built-in 8 velocity values commonly used materials
Detection Range	2.0 ~ 10000mm (longitudinal wave in steel). Continuous adjustable, step value 0.1, 1, 10, 100mm
Detection Methods	Positive half wave, negative half wave, full-wave, RF
Alarm	Two-way real-time hardware-driven alarm signal Optional: gate alarm (into the wave, wave loss), the thickness of the alarm, DAC curve Alarm, AVG curve alarm, the alarm signal optional buzzer (sound), light-emitting diode (light)
Display	7-inch high-resolution TFT color LCD screen, big screen, dot-matrix 800×480
Pulse Shift	-45 ~ 9999mm
Probe Zero Value	0 ~ 999.99 μ s
Pulse Repetition Frequency	25~1000Hz, automatic or manual adjustment mode
Vertical Linearity Error	$\leq 3\%$
Level Linearity Error	$\leq 0.3\%$
Sensitivity Margin	> 62dB (200 Φ 2 flat bottom hole)
Resolution	> 36dB
Dynamic Range	≥ 32 dB
Rejection	(0-99)%, does not affect the linearity and gain
RF Output Impedance	50 Ω
Electrical Noise Level	<10%
Probe Interface	BNC or Lemo
Data Port	USB interface
Power	High-capacity lithium battery, no memory effect; 220V AC (with adapter).
Working Time	Continuous work more than eight hours
Ambient temperature	-30 $^{\circ}$ C ~ 50 $^{\circ}$ C
Relative humidity	(20-95)% RH
Weight	1.4kg (including battery)

Standard Accessories:

No.	Item	Quantity
1	Main Body	1
2	Straight Beam Probe	1
3	Angle Probe	1
4	Machine-probe Cable	1
5	Power Adapter (Charger)	1
6	Data proceeding Software	1
7	USB communication Cable	1
8	Manual	1
9	Instrument Case	1
10	Guarantee Card	1
11	Packing List	1

