JITAI9102 Digital Ultrasonic Flaw Detector

I.Introduction

Digital ultrasonic flaw detector is advanced type, can quickly, easily and without damage, accurately detect, locate, evaluate and diagnose various defects inside the work-piece such as cracks, welds, pores, sand holes, inclusions, folding, etc. It has been applied for electric power, petrochemical, boiler and pressure vessel, steel structure, military, aerospace, railway transportation, automobile, machinery and other fields. It is an essential instrument for the non-destructive testing industry.

II.Features

●High-precision quantification and positioning to meet the requirements of near and far distance detection

●The near-field blind zone is small, can meet the detecting requirements for small-diameter and thin-walled pipe.

●Auto calibration function:one-button auto calibration,easy to operate, automatic test probe “P Delay”,”K value”,”X value” and the velocity

●Automatic display the defect echo position(Depth:d, Horizontal:p,Distance:s, Amplitude,dB,ϕ)

●Switch three scales freely(Depth:d, Horizontal:p,Distance:s)

●Auto gain, peak envelope, peak memory functions, which can improve the detection efficiency.

●Automatically record the flaw detection process and dynamic playback

●ϕ value calculation： Forging flaw detection by straight probe, can find the highest wave to conversion ϕ value automatically

●500 independent channels(can be expandable), which can input and store the detection standards of any industries freely, do not need to carry the standard blocks for on-site inspection.

●Store, playback 500 A-scan waves and data freely
●The DAC, AVG, and TCG curves (depth compensation) are automatically generated and can be segmented. The sampling points are unrestricted and can be corrected and compensated.
●14 built-in inspection standards
●Free to enter any industry standards
●Pulse width and strength can adjustable
●B scan and B color scan function；
●Can communicate with the computer, and export WORD. File, also the detection report
●IP65 ABS plastic case, sturdy and durable,water-proof and dust-proof, and excellent anti-interference ability
●Use (wireless) communication software to analyze data print reports, etc；
●260,000-color true color screen, is suitable for working environment under strong light or low light
●High performance lithium battery, can work continuously for 8-10 hours
●Real-time clock recording: real-time flaw detection date, time tracking record, and storage
●Power-down protection, storage data can not lost
●Flaw detection parameters can be automatically tested or preset
●Digital reject, does not affect gain and linearity
●Gain compensation: Db attenuation can be corrected for surface roughness, curved surfaces, long-range flaw detection of thick work-pieces, etc.
●Can operate the flaw detector by software at the PC, achieving the goal of computer-controlled flaw detector to detecting

III.Technical Specification

Display	7 inch TFT color screen，800*480 resolution
Operation mode	Button, Rotary
Power supply	Lithium Ion Battery
Battery capacity	5.0Ah
Power voltage	12V
Power quantity	1
Working time	≥8 hours
Adapter input	DC100～240V 50Hz/60Hz
Adapter output	AC 12V
Adapter power	36W
Data storage	SD card(16G)
Alarm	1
Working Temperature	-10℃～45℃
Storage Temperature	-20℃～60℃
IP Grade	IP65
Dimension	245*155*55mm
Weight	1.18kg（included battery）

Conventional UT Model	
Probe Connector type	BNC
Channel Type	Single channel
Channel Num	500 group(able to be scaled)
Pulse Type	Negative sharp wave
Transmit Voltage	50~350V，step in 50V
Damping	560Ω
Gain	0~110dB，step:0.5/2/6/12dB
Gain Fine Adjustment	-4~+4
Surface compensation	All Gain Range
Working Frequency	0.5~20MHz;
Probe Type	Single,Dual, Through, Immersion type
Filter	Three optional: 1~4MHz/0.5~10MHz/2~20MHz
Detection Mode	Negative/Positive/Two-way/RF
Reject	0~80%,step 1%
Testing Range	0~15000mm,Minimum display range:15mm（in steel）
Material Velocity	100~20000m/s
Pulse displacement	-10~1000mm
P DELAY	0~200us
X-VAL	0~100mm
Guide	Weld, Sheet, Forging inspection
Testing Point	Peak/X-val/J val
Measurement	Gate:Amplitude,Amplitude dB value,Range,Horizontal distance,Vertical distance,The difference value between A and B Gate Cursor:2 cross cursors, can test the horizontal and vertical distance,and the distance between cursors(under B scan function)
Gate	Gate start:all range
	Gate width:all range
	Gate level:10~90%,step:1%
Curve	DAC, maximum six curves, meet to NB/T 47013,GB/T 11345,GB/T 29712, and other standards
	TCG, maximum six curves
	AVG
Other functions	Full screen, cursor switch(range/Height/Horizon), single/continuous auto gain(10~100%, step 10%), echo compare,echo full, peak envelope,peak memory,fast scan,outside mode,screenshot
	Peak freeze/Crack depth/Gate expansion//curved surface modification/ B scan/Flat weld simulation//video

Alarm	Sound and light alarm
Sensitivity Leavings	≥65dB(200mm-Φ2FH,2.5PΦ20)
Horizontal linearity error	≤0.3%
Vertical linearity error	≤3%
Amplitude linearity error	≤±2%
Attenuator accuracy	20dB ±1 dB
Dynamic range	≥32dB
Distant resolution	≥26dB
Noise Level	＜40×10^{-9} V/

IV.Standard Configuration

	Name	QTY
1	Main unit	1
2	Power adaptor	1
3	probe connecting cable	2
4	Instrument case	1
5	Instruction manual	1
6	Straight probe	1
7	Angle probe	1
8	Warranty card	1