

Defectobook® DIO1000 PA

Portable Ultrasonic Flaw Detector
Phased Array Version



Defectobook® DIO 1000 PA is the latest instrument fully developed and designed by company STARMANS Electronics Ltd.

New generation of electronic components, fast micro-processors and our long-term experience in manufacturing of ultrasonic instruments enabled us to develop really advanced revolutionary ultrasonic flaw detector Defectobook® DIO1000 with the best parameters and functions.

MAIN APPLICATIONS:

- Aerospace – composite testing
- Steel production – large castings, hot and cold rolled steel
- Engineering – welds and joints
- Railway – track junctions in manganese steel
- Energy – austenitic welds, drive shafts etc.
- Pipe inspection
- Crack detection and sizing

ENVIRONMENTAL TESTS:

- Tests for Damp heat / Humidity as per norms EN 600-2-78;02; EN 60068-1
- Vibration tests as per norm EN 60068-2-6 ed 2:08
- Shock tests as per norm EN 60068-2-29:1996+Z1:10

GENERAL SPECIFICATIONS

Display:	Color TFT sunlight, 1024 (W) X 768 (H)
Display Update Rate:	Minimum 60 Hz
Display dimensions:	99x130 mm
Focal law quantity:	512 (1024)
Synchronization:	Outside synchronization, echo start
Operating Temperature:	-10 °C to 50 °C
Storage Temperature:	-40 °C to 70 °C
Battery Operating Time:	up to 10 hours
Memory:	4 – 16 GB (up to 40000 A-Scans)
Dimensions:	224x188x34 mm
Weight:	0.74kg without battery + 0.54kg battery
Warranty:	2 years, optional 3 years

DIO 1000 PA specifications:

	Conventional	Phased Array
PULSER		
Pulser Type:	User Selectable: Turnable square wave, negative spike excitation, burst	
Pulser Energy:	18 – 189 V	18 – 79 V (189 V optional)
Pulser Repetition Frequency:	10 Hz - 20 kHz	
Configuration:	16 channel	
Pulse width:	15 – 5000 ns	15 – 250 ns
Damping:	50, 57, 200, and 1 000 Ohms	Active
RECEIVER		
Gain Control:	0 – 111 dB with 0.1/0.5/1.0/6dB step	0 – 32 dB with 0.1/0.5/1.0/6dB step
Rectification:	Full Wave, Half Wave Positive or Negative rectified, and RF waveform	
Receiver Bandwidth:	0.5 MHz to 200 MHz (at –3 dB)	0,5 MHz to 100 MHz
Amplitude measurement:	0 – 150 % FSH	
Filters:	2, 2.25, 4, 10MHz BP; digital LP 6 to 50MHz	
INPUT / OUTPUTS		
Transducer Cable Connectors:	Lemo	Molex
Communications Ports:	USB	
B-scan input:	A, B – pulses, TTL 5V, Start	
CALIBRATION		
Auto Transducer Calibration:	Zero offset and velocity	
Units:	Mm, inch, μ s	
Material Velocity:	From 1 to 19,999 m/s	
Range:	0 to 29,000mm for PRF 100Hz in steel	
Test Modes:	Pulse Echo, Dual, Through Transmission, EMAT	Pulse Echo, Through Transmission, EMAT
GATES		
Gate Monitors:	Four independent flaw gates - Floating gate, Interface gate, Measuring gate, Back-wall attenuator	
Alarms:	Selectable threshold positive/negative or minimum depth modes	
Cursors:	N/A	Radius, Angle
MEASUREMENTS		
Views:	A-scans (40 000 A-scans memory), B-scans	A-scans, B-scans, S-scans, optional C-scan
Scan Type:	Linear, Sector Scan	
Auto Gate:	Thickness	
DAC/TCG/DGS:	20 points, plus 4 sub curves	
Colour maps:	RGB, TOFD	