

Defectobook[®] DIO1000 SFE

Portable Ultrasonic Flaw Detector



Defectobook[®] DIO 1000 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.

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.**
- **Automotive – spot weld testing**
- **Customized applications**

MAIN FEATURES:

Well balanced between ergonomics and functionality: easy solutions for your daily applications in workshop, laboratory and outdoors. Due to its adjustable handle, the instrument sits stable on any surface you encounter, even on round parts.

Large bright color LCD screen 1024 x 768 pixels, excellent visibility on the direct sunlight.

Optimum performance and extended connectivity.

Lightweight 1,28 kg / 3,04 lbs and just 34 mm thin.

The DIO 1000 combines the powerful advantages of digital design with the detailed dynamic echo information to bring back the “analog look and performance”, using sampling rate of 200 MHz.

Direct access to 12 functions.

Burst pulser selectable and tunable for optimum probe matching to satisfy a wide range of tough-to-penetrate applications.

EMAT for non-contact testing.

Trigonometric flaw location function with curvature correction automatically calculates depth, surface distance and sound path to flaw along with the leg of the inspection when using angle beam probes. All TOF measurements can be displayed in mm, inches or μm .

Standard DAC, JIS-DAC, AVG, API, Automatic Thicknessmeter, Auto Gain, Auto Freeze.

Weld rating calculation simplifies the rating of indications in welds according to AWS Specification D1.1.

B-scan imaging - thickness mode or RGB palette.

DIO 1000 SFE specifications:

<p>GENERAL SPECIFICATIONS Display: Display Update Rate: Display dimensions: True Sampling Rate: Operating Temperature: Storage Temperature: Power Requirements: Battery: Battery Operating Time: Keypad: Languages: Memory: Dimensions: Weight: PC Requirements: Warranty:</p>	<p>Color TFT sunlight, 1024 pixels (W) X 768 pixels (H) Minimum 60 Hz 99x130 mm 200 MHz, 12-bit -10 °C to 60 °C -40 °C to 70 °C AC Mains: 100-120 V AC, 200-240 V AC, 50-60 Hz Built-in and external rechargeable Lilon battery pack rated at 3.6 V at 16 Ah 10 hours, depending on display brightness Graphic symbols, International Selectable in menu, user-defined custom language 2– 16 GB 224x188x34 mm 0.74 Kg without battery + 0.54 kg battery for 10 working hours PC running minimum Microsoft Windows Vista®, Microsoft Windows XP®, Microsoft Windows 2000®, Two years warranty, battery not included. Optional three year warranty available</p>
<p>INPUT / OUTPUTS Transducer Cable Connectors: Communications Ports: B-scan input: High Speed Parallel and TTL Port: Analog Output:</p>	<p>Lemo® USB, RS232, Ethernet, Wireless Ethernet (optional), Bluetooth (optional) Encoder, A, B – pulses, start, TTL 5 V, Encoder supply – switchable 5V Alarm outputs, trigger in/out control Selectable voltage output of depth or amplitude data</p>
<p>PULSER Peak Memory: Pulser Type: Pulser Energy: Damping:</p>	<p>Pulse repetition rate up to 20 kHz and peak envelope of A-Scan display User Selectable: Tunable square wave, negative spike excitation, burst Low (100 V) and Max (400 V) 50, 57, 200, and 1000 Ohms</p>
<p>RECEIVER Gain Control: Reject: Rectification: Receiver Bandwidth: Filters:</p>	<p>110 dB Max and reference gain, level control in 6 dB, 1 dB, 0.5 dB and 0.1 dB selectable steps 0 % to 80 % of full scale in 1 % increments Full Wave, Half Wave Positive or Negative rectified, and RF waveform 0.5 MHz to 30 MHz at –3 dB Broadband, Narrowband, or Custom Selectable Low and High Pass Filters 1 MHz, 2 MHz, 2.25 MHz, 4 MHz, 5 MHz, 10 MHz</p>
<p>CALIBRATION Auto Transducer Calibration: Units: Material Velocity: Range: Refracted Angle: Test Modes:</p>	<p>Automated calibration of transducer, zero offset and/or velocity Metric or microseconds From 100 to 15240 m/s in steel Standard 1 mm to 60,000 mm in steel Fixed settings of 0°, 30°, 45°, 60°, 70°, or variable from 10° to 90° in 0.1° steps for calculations Pulse Echo, Dual, or Through Transmission</p>
<p>GATES Gate Monitors: Alarms:</p>	<p>Four independent flaw gates controllable over entire sweep range - Floating gate, Interface gate, Measuring gate (relative, absolute, amplitude, time), Back-wall echo attenuator Selectable threshold positive/negative or minimum depth modes</p>
<p>MEASUREMENTS A-scan memory: B-scan memory: Peak Hold: Auto Gate: DAC: TCG: Curvature correction: Spot weld:</p>	<p>40 000 A-scans (up to 200 000 optional) – printscreen PNG, A-scan, setup 10 km of B-scan, 1 mm resolution Freezes Peak Memory echo envelope for recorded waveform comparison with live A-Scan Thickness Standard, up to 20 points, 111 dB dynamic range (71dB continual) For echo amplitude adjustment and evaluation Automatically Auto Gain echo, Auto Freeze</p>