

STARMANS DIO 1000 2CH

2 Channels Flaw Detector

COMPACT FLAW DETECTOR: STARMANS FEATURED BY EKOSCAN

DIO 1000 2 CH with its 1.2kg is the lightest equipment of its kind available in the world. It provides 2 UT channels that can be set-up separately the enable inspections with 2 transducers in parallel. The 2 channel mode enable a display of 2 A-Scan simultaneously on the screen and to perform and display 2 B-Scan at the same time.

Technical specifications

- LCD screen 1024 x 768 pixels
- Light weight 1.28 kg and 34 mm thin
- Sampling rate of 200 MHz
- Direct access to 12 main functions
- 2 independent channels that enable single or dual inspection on each
- Selectable and tunable burst pulser for each channel
- Trigonometric flaw location function
- Standard DAC, JIS-DAC, AVG, API, Automatic Thicknessmeter, Auto Gain, Auto Freeze, Automatic Calibration, Curved Surface Measurement



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
- Pipe inspection
- Crack detection and sizing



Ref:

- DIO1000 2CH

GENERAL

Display	Color TFT sunlight, 1024 pixels (L) x 768 pixels (H)
Display Update Rate	Minimum 60 Hz
Display dimensions	99×130 mm
True Sampling Rate	200 MHz, 12-bit
Operating Temperature	-10 °C to 60 °C
Storage Temperature	-40 °C to 70 °C
Power Requirements	AC Mains: 100-120 V AC, 200-240 V AC, 50-60 Hz
Battery	Built-in and external rechargeable Li-ion battery pack rated at 3.6 V at 16 Ah
Battery Operating Time	10 hours, depending on display brightness
Keypad	Graphic symbols, International
Languages	Selectable in menu, user-defined custom language
Memory	2 – 16 GB
Dimensions	224×188×34 mm
Weight	0.74 Kg without battery + 0.54 kg battery for 10 working hours
PC Requirements	PC running minimum Microsoft® Windows® Vista®, Microsoft® Windows® XP®, Microsoft Windows 2000®,
Warranty	Two year warranty, battery not included. Optional three year warranty available

INPUT / OUTPUTS

Transducer Cable Connectors	BNC x4
Communication Ports	USB, RS232, Ethernet, Wireless Ethernet (optional), Bluetooth (optional)
B-scan input	Encoder, A, B – pulses, start, TTL 5 V, Encoder supply – switchable 5V
High Speed Parallel and TTL Port	Alarm outputs, trigger in/out control
Analog Output	Selectable voltage output of depth or amplitude data

PULSER

Peak Memory	Pulse repetition rate up to 20 kHz and peak envelope of A-Scan display
Pulser Type	User Selectable: Tunable square wave, negative spike excitation, burst
Pulser Energy	Low (100 V) and Max (400 V)
Damping	50, 57, 200, and 1000 Ohms

RECEIVER

Gain Control	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
Reject	Full Wave, Half Wave Positive or Negative rectified, and RF waveform
Rectification	0.5 MHz to 30 MHz at –3 dB
Receiver Bandwidth	Broadband, Narrowband, or Custom Selectable Low and High Pass Filters – 1 MHz
Filters	2 MHz, 2.25 MHz, 4 MHz, 5 MHz, 10 MHz

CALIBRATION

Auto Transducer Calibration	Automated calibration of transducer, zero offset and/or velocity
Units	metric or microsecond
Material Velocity	From 100 to 15240 m/s in steel
Range	Standard 1 mm to 60,000 mm in steel
Refracted Angle	Fixed settings of 0°, 30°, 45°, 60°, 70°, or variable from 10° to 90° in 0.1° steps for calculations
Test Modes	Pulse Echo, Dual, or Through Transmission

GATES

Gate Monitors	Four independent AW gates controllable over entire sweep range - Floating gate, Interface gate, Measuring gate (relative, absolute, amplitude, time), Back-wall echo attenuator
Alarms	Selectable threshold positive/negative or minimum depth modes

MEASUREMENTS

A-scan memory	40 000 A-scans (up to 200 000 optional) – screenshot PNG, A-scan, setup
B-scan memory	10 km of B-scan, 1 mm resolution
Peak Hold	Freezes Peak Memory echo envelope for recorded waveform comparison with live A-Scan
Auto Gate	Thickness
DAC	Standard, up to 20 points, 111 dB dynamic range (71 dB continual)
TCG	For echo amplitude adjustment and evaluation
Curvature correction	Automatically
Spot weld	Auto Gain echo, Auto Freeze

