Railscan 125+ Product Detail Specifications

(Subject to change without notice)

Features		Details
Enclosure	Size	H=145mm x W=255mm x D =145 mm (5.7 in x 10 in x 5.7 in)
	Weight	2.5 Kg (5.5 Lbs) with battery
Environmental	Operating Temperature	-10 degree C to 55 degree C (-14 degree F to 131 degree F)
	Storage Temperature	-25 degree C to 75 degree C (-13 degree F to 167 degree F)
	Relative Humidity	5 to 95%, non-condensing
	IP rating	Designed to meets IP67
	Resolution	Up to 0.01 mm (0.001 in) for distance or 1% FSH for amplitude measurement. Large display of measurement at top of A-Scan display. Measurement mode selectable between peak and flank.
	Test range	5 mm (0.2 in) up to 0 - 10000 mm (400 in) at steel velocity (5930 m/s or 19455f/s). Variable in 1,2,5 sequence or continuously in 1mm.
	Velocity	1000 to 9999m/s continuously variable.
	Probe zero	0 to 999.999 µs, continuously variable.
	Backwall Echo Attenuation (option)	0- 40dB attenuation.
	Measurement Units	metric (mm), Inch (in)
Measurement Modes	Mode 1	Signal Monitor, Gate alarms can be active but no measurements are display
	Mode 2	Depth and amplitude of the 1st signal gate
	Mode 3	Gate to Gate distance measurement. (Independent gates).
	Mode 4	Trigonometric display of beam path, surface distance and depth of indication from the inspection surface together with echo amplitude, curved surface correction for convex and concave, X-OFFSET for probe index. Half skip indication on screen.
System Linearity	Vertical linearity	0.5% Full Screen Height (FSH).
	Horizontal linearity	±0.2% Full Screen Width (FSW).
	Amplifier Accuracy	± 0.5dB
	Gate Monitor	Three fully independent gates for echo monitoring and thickness measurement. Start and width adjustable over full range of unit, amplitude variable from 0 to 100% FSH. Bar presentation. Positive or negative triggering for each gate with audible and visual alarms. Gate resolution is 5 ns
	Gate Expansion	Expands range and delay to cover the area set by Gate 1 start and width controls.
	Gate Monitor Delay	Selectable 0.6 seconds delay on gate 2 negative monitor tracking.
	Display Freeze	For capturing the current waveform (A-scan) image for off-line processing.
	Active Peak Memory	Retains all the A-scan on screen for echo dynamic pattern determination, with active A-scan display in separate colour.
	Auto-Cal	Provides automatic calibration from two echoes.
	Notes	Alphanumeric labelling for panel and A-log allows the user to enter Notes for storage with panel settings and A-scans.
	Keylock	Prevents accidental alteration of parameters.
	Help Key	For instant operator guidance on using the Masterscan Series. Shows software and hardware information

	Reference Waveform	This menu displays a waveform from one of the A-log stores as a reference or fingerprint display in a colour different from the active display highlighting differences from the reference.
	Persistence	Cause previous A-scan to fade out at a user determined rate (1 to 6).
	Clock	Sets time and date. Built in battery-backed RTC keeps time and date. Visible on status line, always store with Panels, A-logs, etc Internal memory 4 GByte storage available
	Internal memory	4 GByte storage available
Receiver	Connector type	BNC
	Gain range	0 to 110 dB, adjustable in 0.1, 0.5,1,2,6,10,14 and 20dB steps. Direct access to gain control at all times
	Input Impedance	50 or 400 Ohm damping selectable
	Filters bands	- Narrow bands centred at 0.25MHz,0.5 MHz, 1MHz, 2MHz, 5MHz, 10MHz and 15MHz/wide. - Broadband at 2Mhz to 22Mhz (6 dB) and 1Mhz to 35Mhz.
Pulser	Connector type	BNC
	Number of channel	1
	Test mode	Pulse echo and transmit/receive. Single crystal, Double crystal and Pitch and catch
	Pulse voltage	200V
	Pulse shape	-VE spike and Square wave
	Pulse width	200 ns => 2.5 Mhz, 100 ns => 5 Mhz.
	Rise/fall times	<5ns into 50 Ohms at 200V (width adjustable in 2% of nominal width. Min=1 ns, Max=40ns)
	Thickness Logging	Can store up 440,000 thickness readings configured either by Block/Location/Number mode or pre-programmable work sheets in sequential mode. Readings can be exported to MS Excel using optional software.
	Panel memory	Can store up to 450,000 panels for retaining calibrations.
	A-scan memory	200,000 waveforms can be printed or transferred to a PC.
Display	Size	116.16 x 87.2 mm (4.57 x 3.43 in)
	Screen resolution	640 x 480 pixels (VGA) TFT
	A-scan resolution	400 x 510 Pixels (460 x 620 Pixels in Full screen)
	Update rate	60 Hz
	Colour	9 colours options with variable brightness.
I/O ports	Front Video output	Composite Video (p. 43)
	Back USB	Compatible with 1.1 version, Type A Internal storage shown as memory device
	Encoder Connection	D-SUB connector
Battery & Power supply	Battery Type	Lithium Ion battery pack
	Number of battery	1
	Battery Life	16 hours typical
	Recharge time	3-4 hours (battery can be charge separately)
	Output power	14.4V - 5A/hours
	Charger	100-240 V AC, 50-60 Hz
Language Support	User selectable	Dutch, English, French, German, Russian, Spanish (other available on request)
Calibration standard		EN12668-1 2010
Standards		- Vibration to 514.5-5 Proc 1 Annex C Fig 6 - Shock 516.5 Proc 1 15g/6mms - Explosive atmospheres: MIL-STD 810G - Methos 511.5, procedure I