RailTek 🛭

Digital Ultrasonic Flaw Detector for Rail Weld



RailTek 2 is a portable ultrasonic flaw detector for rail inspection. Compatible with different probes and crawler, it can be used for inspecting rail weld and flaws in rail head, rail web and rail base.

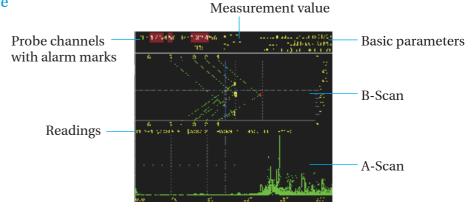
Superior Features

- Extendable connectors
- Various user-friendly keys
- Customized rail type setup
- Support tandem matrix compound scanning
- Advanced software for calibration, testing and measurement

Clear and Logical Software Interface



Single channel display



All channels display

Tandem Matrix Compound Solution

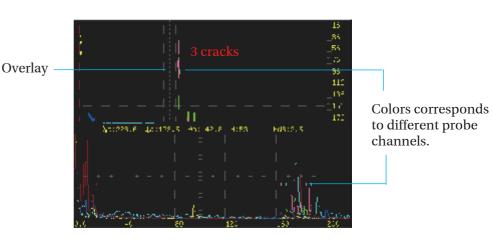


Tandem scanning crawler



- Tandem scanning for vertical cracks.
- P/E mode for vertical, oblique cracks and volume flaws in rail base.
- 0° dual-element probe and P/C mode for coupling monitoring.





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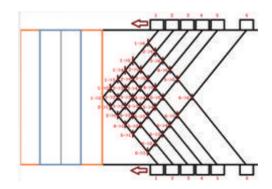
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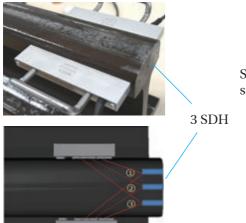
Dual Matrix Solution

Dual matrix probes:

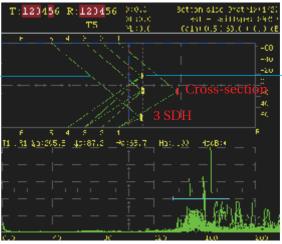
- K-type dual matrix scanning mode, suitable for testing rail head and rail base.
- Probes 1 to 6 transmit in turn, and is received by each receiving probe six times, thus forming 36 transmit and receiving modes.







Sound beam simulation



Colors corresponds to different echo amplitude.

Technical Specification

General Technical Specification				
Display Screen	5.7" high brightness TFT LCD, 640×480 pixels			
Dimension (W×H×L)	161 × 248 × 103 (mm)			
Weight	Approx. 1.9kg (including a battery)			
Language	English			
Peripheral port	2 USB ports, SIM card port, Ethernet port			
Encoder Connector	1pc (4-core)			
Battery Operating Time	≥8h			
Internal Storage	16G; 500 data sets			
Power Supply	DC 12V (external power supply); 7.4V (battery)			
Operation Temperature	-25°C~+50°C			
Storage Temperature	-20°C∼ +60°C			
Certifications	ISO22232-1			

Technical Specification

Testing Index					
Attenuator Error	Every 20dB ±1dB				
Time Base linearity	≤0.5%				
Amplitude Linearity	$\leqslant \pm 2\%$				
Pulser					
	Single/ dual-element probe channels: 20~1000Hz				
PRF	Matrix channels: 20~3000Hz				
	step 10Hz (subject to transmit pulse width)				
Damping	200/1000Ω, 2 levels				
Receiver					
Reject	0~90%, step 1%				
Gain	0~110dB, step: 0.5/1/2/6/12dB				
Detection Range	0~13000mm, min. display range 5mm, min. step 0.1mm				
Pulse Shift Range	-25~10000mm, min. step 0.1mm				
Auxiliary Function	Coordinate switch(sound path/depth/horizontal), freeze, auto gain(40%-100%, step:10%), peak envelop, wave compare,				
	zoom, gate expansion, screenshot, cineloop, wave filling, rail type selection(38/43/50/60/70 kg/m), weld I-shape				
	mark(auto/manual), B-Scan image, GPS, camera record, WIFI				
Material Velocity	200~20000m/s, min. step 1m/s				
Probe Zero	0~1000us, min. step 0.01us				
Calibration	Velocity and Zero; Probe angle; Encoder				
Curve Function	Single/ dual-element probe channels: DAC, PAC				
	Matrix channels: Sensitivity compensation curve				
Gate					
Gate	Gate Start: -25~13000mm, min. step 0.1mm				
	Gate Width: 0.1~13000mm, min. step 0.1mm				
	Gate Thresh: 10~90%), step 1%				



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