

POWERBOX H

Portable, high-power,
ultrasonic instrument

Equipment Highlights

- High-temperature thickness measurement.
- Thickness scanning without couplant.
- Austenitic weld inspection (single element).
- Inspection under supports and on air-to-soil interfaces using guided waves.
- Light-post inspections.
- Surface wave inspections.
- Measurement of Stress, Bolt-Load and Nodularity.
- Corrosion and flow monitoring (see monitoring applications).
- Thickness Measurement with Dry-Coupled Piezoelectric Probes.
- Thickness Measurement with standard liquid-coupled probes (requires signal attenuator).

The Innerspec POWERBOX H is the only hand-held, battery operated instrument capable of generating up to 1200V or 8kW of peak power at speeds of up to 300Hz. For pulse-echo operation, a built-in transmitter/receiver switch permits connecting directly to the instrument with no additional hardware.

A built-in thermocouple port permits taking temperature readings to correct time-of-flight measurements, and a one-axis encoder input can be used for integration with an automated or manual scanner. A setting of 600Vpp (approx. 3kW) is also available to maximize battery life if the application does not require full power. Embedded POWER UT H software permits the user to modify the triggering and receiving patterns, use advanced filters to enhance signal-to-noise and present the information on A, B, C and Line Scan formats.

Screen captures, device settings, and data can be downloaded to a PC using additional software provided with the instrument. The Innerspec POWERBOX H can be used with any sensor from Innerspec's Standard Catalog and sensors from other manufacturers.





POWERBOX H - Technical Specifications	
Ultrasonic Channels	1
Bandwidth	100 kHz to 6 MHz
Pulse Repetition Rate	up to 300 Hz
RF Pulser	Spike, Toneburst Waveforms 8 kW Power Output 1200 Vpp @ 25App into 50 Ohms 0.1% Maximum Duty
Receiver	Pulse-Echo Mode 1 k Ω Input Impedance 30 dB to 70 dB Gain <0.05 dB Gain Resolution Pulse-Catch Mode 50 k Ω Input Impedance -20 dB to 60 dB Gain <0.1 dB Gain Resolution
Pulse / Receive Modes	Pulse-Echo, Pitch-Catch
Analog / Digital Converters	12-bit, 100 MHz
Rectification	Full-wave +/- half-wave RF mode
Filtering	FIR Digital Filters,
Evaluation Gates	Interface plus 2 Gates
Encoder Interface	2A/B Quadrature
PC Communication	USB 2.0 Drag-n-drop
Software	Embedded Software with A, B, C Line Scans plus PC interface Software
Internal Storage Capacity	64 GB eMMC
Internal Memory	NA
Probe Connector	2-Pin Lemo OB
Operating Temperature	0°C (32°F) to 40°C (105°F)
AC Power Input	100-240 VAC, 50-60 Hz
Other I/O	Magnet Pulser Trigger Thermocouple Input (Type K) General Purpose I/O (5V TTL) Encoder/Signal Cond. Power VGA output • Ethernet • 10/100 SD Card
Dimensions	8"W x 9"H x 4"T 203 mm x 229 mm x 100 mm
Weight	2.72 Kgs (6 lbs)
Battery Life	4-8 Hours