



# temate® PowerBox H

## High-Power Portable Ultrasonic Instrument

The **temate® PowerBox H** is the first hand-held, battery operated instrument capable of generating up to 1200V or 8kW of peak power at speeds of up to 100Hz. The instrument incorporates integrated digitizer and broadband pulsers/receivers to perform a variety of flaw inspection, thickness,

and material property measurements in factory or field environments. Spike and tone-burst pulses at frequencies from 100 kHz to 6MHz can be generated to excite a full range of ultrasonic wave modes, including guided waves, in pulse-echo and pitch-catch arrangements. For pulse-echo operation, a built-in transmitter/receiver switch permits connecting the

sensor directly to the instrument with no additional hardware. A thermocouple port permits taking temperature readings of the part inspected to correct Time-Of-Flight measurements, and a one-axis encoder input can be used for integration with an automated or manual scanner.

The instrument can be used with sensors from Innerspec Technologies or other manufacturers. A setting of 600Vpp (approx. 3kW) is also available to maximize battery life if the application does not require full power.

Embedded software **PowerUT® H** permits the user to modify 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.



# Innerspec Technologies

World **Leader** in **EMAT** Technology

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[www.innerspec.com](http://www.innerspec.com)

**temate® PowerBox H** with High-Temperature Sensor (1200°F/650°C)

<b>temate® PowerBox H</b>	
Ultrasonic Channels	1
Bandwidth	100kHz to 6MHz
Pulse Repetition Rate	100 Hz
RF Pulser	Spike, Toneburst Waveforms 8 kW Power Output 1200Vpp @ 25App into 50 Ohms 0.1% Maximum Duty
Receiver	<b>Pulse-Echo Mode</b> 1 kΩ Input Impedance 30 dB to 70 dB Gain <0.05 dB Gain Resolution <b>Pitch-Catch Mode</b> 50 Ω Input Impedance -20 dB to 60 dB Gain <0.1 dB Gain Resolution
P/R Modes	Pulse-Echo, Pitch-Catch
A/D Converters	12-bit, 100MHz
Filtering	FIR Digital Filters
Rectification	Full-wave, +/- half-wave, and RF mode
Evaluation Gates	Interface plus 2 Gates Amplitude and Time Measurements
Encoder Interface	A/B Quadrature
PC Communication	USB MiniAB Drag-n-drop
Software	PowerUT® H with A, B, C and Line Scans plus PC Interface Software
Probe Connector	Lemo 0B
Operating Temperature	0°C (32°F) to 40°C (105°F)
AC Power Input	100-240VAC, 50-60Hz
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
	203mm x 229mm x 100mm
Weight	2.72Kgs (6lbs)
Battery Life	4-8 Hours



#### Available EMAT Sensors

- Shear Horizontal and Longitudinal normal beam for ambient and high temperature applications (up to 1200°F/650°C)
- Shear Horizontal and Shear Vertical angled beam
- Guided Waves
- Measurement of Material Properties (anisotropy, nodularity, strain)
- Custom probes available upon request



#### Accessories

- Magnet Pulser, **temate® PowerBox MP**
- Sensor Roller Kits, Scanners

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