Smart Impulse Hammer WaveHit^{MAX}

Easy Automated Single Hit Configuration

WaveHit^{MAX} with mounting plate (optional)

BENEFITS

- Reproducible, high precision single hit excitation
- Automatic and manual zero point search
- Automatic self calibration process (no presetting necessary)
- Internal processing of the sensor signal
- Configuration of magnitude and pulse width using the supplied accessories (weights and tips)
- Start the hit series via trigger, TTL signal or software
- Set impact forces
- Sensor calibration by accredited test laboratory (for MK2)

APPLICATIONS

- Experimental modal analysis
- Acoustic resonance testing
- Conditioning monitoring
- Material testing
- Impact hammer testing
- Frequency response function testing

The WaveHit^{MAX} is the first smart impact hammer, offering innovative solutions for mechanical excitation in structural dynamic applications. With internal signal processing, it guarantees fully automatic, reproducible, and high-precision excitation without double hits.

The user can set the number of hits, impact force and the delay between hits accounting for different degrees of damping / delay times.

All presettings like zero point or impact force search are made automatically by the hammer. Manual adjustment by the user is no longer necessary but for experts, there is an additional manual mode to take full control of the test process.

WaveHit^{MAX} offers new possibilities compared to the partially automated impact hammers. Advantages of internal signal processing: Fully automatic single hits, automatic search for user defined impact force, automatic zero point search, validation of the impact for quality assurance, change of the position between hammer and test object are possible and does not require a new setup.

Via Ethernet, the WaveHit^{MAX} can be operated quickly and easily via the supplied software on a Windows enabled device (PC or tablet).

Software for operating WaveHit^{MAX}

Smart Impulse Hammer WaveHit^{MAX}

TECHNICAL DETAILS		
BNC output	**MK1** ± 10 V, noise floor < 100 mV (1 %)	**MK2** ± 10 V, noise floor < 100 mV (1 %) or ± 5 V direct voltage sensor output (DIR)
Impact interval[1]	600 ms – 1 h	
No. of hits	1 – 1.000.000 or start/stop mode	
Operation	Via LED display on device or WaveHit GUI	
Impact release	Via trigger, WaveHit GUI	
Attachment	Fastening via prism rail / prism clamp, optional accessories	
Connections	Ethernet, trigger, integrated power supply, 240 V AC, signal out	
SENSOR SPECIFICATION		
Available ICP® force sensors	 **ICP® force sensor – 445 N**	 **ICP® force sensor – 2224 N**
Impact force[2]	15 – 450 N	20 – 2200 N
Sensitivity ■ **MK1 (BNC output ADC/DAC)** ■ **MK2 (BNC output DIR)**	 20 mV/N 11.24 mV/N	 4 mV/N 2.24 mV/N
Impact pulse width[3]	≥ 0.80 ms	≥ 0.80 ms
Linearity error	< 1 %	< 1 %
AVAILABLE ACCESSORIES		
Hammer tip	 Thin metal	 Metal (hard)	 Plastic (medium)	 Rubber (soft)	 Rubber (extra soft)
Hammer weight	 2 g	 12 g	 60 g	 100 g	

[1] The range is limited by the width of the LED display. Usable range larger when using GUI.
[2] Determined for the best possible test object and mounting.
[3] The pulse width depends on the combination of the selected impact force, the instrumented impact tip and the physical properties of the test object.

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