

# ALL-IN ONE NDT TESTING

Non-destructive testing instrument All-in One: a single acquisition unit that allows, through the purchase of several specific "Kit", to perform sonic and ultrasonic tests for the characterization in situ and in the laboratory of materials such as concrete, masonry and stone materials, "cross hole" and "PIT" (Pile Integrity Test) in piles and diaphragm foundations.

All-in One system is a rugged and reliable equipment with various dedicated piezoelectric sensors and probes. All-in One is characterized by an A/D board multichannel and selectable sampling rates from 10KHz to 6.25MHz (up to 12.5MHz single channel). All acquired signals are displayed, computed and memorized directly on tablet pre-installed software. Connection between All-in One system and tablet via Wifi.

## APPLICATIONS

- Verification of concrete elements on-site
- Analysis of diaphragms and foundation piles
- Seismic cross-hole test

# ALL-IN ONE NDT TESTING

## TECHNICAL CHARACTERISTICS

Channel	2 input / 1 transmitter
Converter type	2 channels 12bit A/D converter
Input type	Differential / Single ended / IEPE
Input range	+/- 5 Vpp
Amplification	range 1 to 40000 software selectable
Pretrigger	selectable, 0 - 2000 samples 1Ch; 0 - 1000 samples
Sample rate	10KHz to 12.5 MHz (12.5MHz/1Ch - 6.25MHz/2Ch)
Sample per rate	up to 8K samples for each channel
Travel time resolution	80 ns
Sample resolution	12 bit@12.5MHz to >16bit@ 50KHz (with oversampling)
Bandwidth	> 1 MHz typ @ gain 10
Filter	antialias, digital filter selectable (DSP)
Trigger	hardware, software, threshold (selectable)
Transmitter drive voltage	100V to 1200V
Pulse duration Selectable	1 to 65000 µs
Transmitter pulse repetition	> 20 meas/s
I/O	WiFi 802.11 (100m)
Transducers	Piezoelectric-Type: See table TRANSDUCERS
Power supply	Internal battery LiFePO4 (4,5Ah)
Recharging	External recharging - recharging time 4h
Consuming	1,8W Stand-by/ 2.8W Ultrasonic active
Autonomy	> 35 hour standBy/ 20 hour working
Case	IP 65
Working temperature	0-60°C
Size and weight	320x212x96mm, weight 2,5 kg

## TRANSDUCERS

Hole-Probe	transmitter / receiver. Diameter 26mm; Length 150 mm
Receiver Sensor (wall-type)	55 KHz
Transmitter Sensor (wall-type)	55 KHz
Transmitter Sensor (wall-Type)	20 KHz
Hammer with accelerometer	iepe, bandwidth 1/10 KHz, sensitivity 1mV/g
Accelerometer	iepe, bandwidth 1/10 KHz, sensitivity 100mV/g



## KIT CONTACT

- In respect of the Standard: UNI EN 12504-4, ASTM D2845-08 and ASTM C597-02
- Sonic and ultrasonic measurements frequency
- 55 kHz or 20 kHz highly sensitive active piezoelectric receivers
- Even for wood samples
- Integrated with a Hammer-Transducer



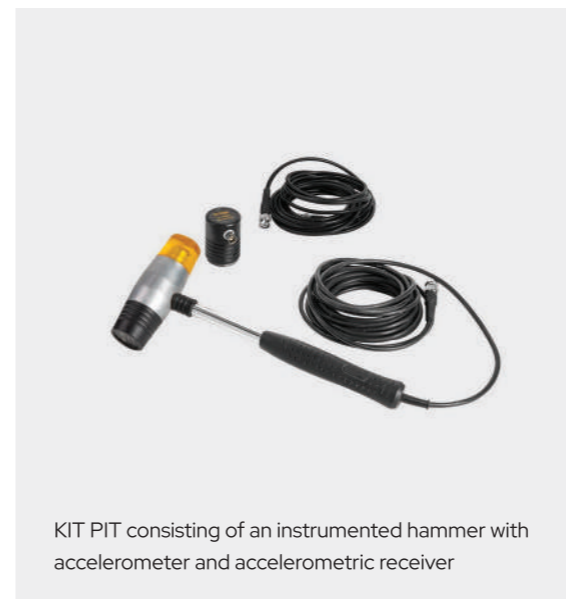
KIT CONTACT 55kHz ultrasonic transducers, with push-button control for automatic signal recording

Accessories KIT All-in-One:  
 - instrumented hammer with accelerometer for sonic investigations  
 - 20kHz transducer  
 - Punch for sonic investigation



## KIT PIT (Pile Integrity Testing)

- According to Norm: ASTM D5882-07
- PIT-Hammer and Accelerometer
- Low Strain Integrity and Echo methods
- Solgeo software "PPS" included



KIT PIT consisting of an instrumented hammer with accelerometer and accelerometric receiver



Dynamic monitoring of monuments interested in the excavation of Rome Metro C

## KIT MCHA

- According to the standard guideline: ASTM D6760-16
- Simultaneously cross-hole measurements along three paths in the pile foundation
- Synchronization impulse using an encoder
- The results can promptly be printed
- High power transmitter and high sensitive active-type piezoelectric 1 receivers (Selectable: 80KHz, 50 KHz)



KIT MCHA consisting of probes 80kHz (optionally 50kHz) with cable reel up to 100m

KIT MCHA encoder with luminous signal for exceeding speed limit and push-button control panel

