ULTRASONIC PULSE ANALYZER

The PULSONIC is used for measuring the velocity of ultrasonic pulses through a concrete section providing informations on cracks, voids, strength, and giving quick estimates of dynamic modulus of elasticity on site or in the laboratory. It can also be used for estimating times for formwork striking. The pulse velocity can be combined with the rebound hammer value for the strength evaluation of concrete.

The unit includes an excel spreadsheet for the acquisition of the waveform on the PC for further elaborations.

Main applications

- **Standard UPV measurement with incorporated oscilloscope.**Conforming to EN 12504-4 and ASTM C597. Also suitable for determining the Dynamic Modulus of Elasticity. The meter features a very accurate measurement of the transit time.
- **Measurement of the Attenuation of the Transmitted Energy.** Very often the transit time only is not enough to identify disomogeneities and little damages as for example microcracking of concrete which are, on the contrary, well located with this technique by properly processing the acquired waveforms.
- **Frequency Spectrum Analysis by FFT Method (Fast Fourier Transform-Algorytm).**For determining the natural frequency of the ultrasonic pulse transmitted through the material. This determination is suitable for the examination of the pulse path and gives indications about possible cavities, delaminations, multi-layer elements or othjer similar dishomogeneities.
- **Concrete Strength Evaluation combining the Rebound number and the UPV transit time**I.t is possible to use our digital test hammer to obtain the avarage value of rebound number. This value can be insert in the dedicated menu of UPV tester combining a typical surface measurement with the deeper UPV transit time in order to obtain a more reliable and extended information.
- **Other applications.** To identify and evaluate Crack depth, Honey combing, Injection quality.

ULTRASONIC PULSE ANALYZER

SPECIFICATION

The Ultrasonic Pulse Analyzer features a potable sturdy case, a large 6” backlight touch screen display making easy and practical the use of the apparatus. Featuring:

2 MHz sampling rate with 12 bit resolution 7 selectable pre-amplifier gains

8 selectable low-pass filter cut fraquencies

Advanced signal processing (Transit time, Wave shape, FFT, SonReb) Selectable pulse rate 1, 2, 5 per second

Transmitter pulse 2500 V

Transit time up to 16 ms with 0.1 µs resolution Slot for memory to save data

RS 232 and USB port for real time downloading to PC

Battery operated by internal rechargeable battery pack (7.2 Ah) up to 9 working hours before recharging Dimensions:

(instrument only) 264x233x83 mm (carrying case) 500x400x140 mm Weight approx.:

(instrument only) 2.6 kg (complete outfit) 5 kg

Standard outfit

The standard version includes the 50 kHz Transmitter and Receiving heads (one of the two probes is ?t with a sampling button to select readings to be recorded), 3 m cables, calibration rod, bottle of contact paste and carrying case.

STANDARDS

- EN 12504-4
- ASTM C597

FEATURES

- Digital scope, 2 MHz sampling rate, 12 bit resolution
- Advanced picking algorithm providing the real arriving time of the pulse Signal processing by FFT method (Fast Fourier Transform)
- Assessment of concrete strength with combined method Ultrsonic velocity/Rebound index (SonReb)
- 7 selectable pre-amplifier gains (impulse amplitude)
- Transmitter pulse 2500 V
- Transit time up to 16 ms with 0.1 µs reolution
- Slot for memory card to save data (2 GB=30000 tests)
- 6” Multifunctional touch screen display

ACCESSORIES

58-E0046/5

54 kHz testing head with exponential profile

58-E4900/P

Piezoelectric head with sampling button for ultrasonic tester series 58-E4900. Nominal frequency 50 kHz. Fitted with BNC connector for coaxial cable (not included).

58-E0046/2

Spare cable 2 m long

58-E0046/3

Coupling agent (contact paste), 250 cc bottle.

58-E0046/30

24 kHz testing head

58-E0046/33

150 kHz testing head

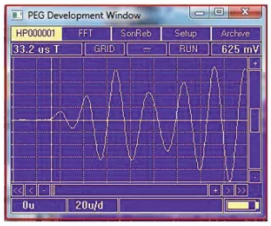
58-E4800/P

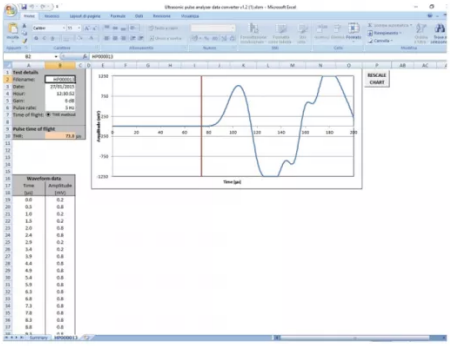
Piezoelectric head for ultrasonic tester. Nominal frequency 50 kHz. Can be used either as receiver or trasmitter. Fitted with BNC connector for coaxial cable (not included).

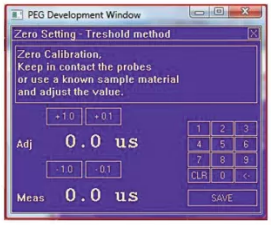
ORDERING CODE

58-E4900

High performance ultrasonic tester for non- destructive tests on building materials featuring in built high speed microprocessor and digital oscilloscope






PEG Development Window
Zero Setting - Treshold method
Zero Calibration,
Keep in contact the probes
or use a known sample material
and adjust the value.
+1.0
+0.1
Adj
0.0 us
-1.0
-0.1
Meas
0.0 us
1
2
3
4
5
6
7
8
9
CLR
0
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SAVE