pundit lab⁺

Pundit Lab⁺ adds Site Functionality to the leading ultrasonic Test Instrument for Concrete

Now featuring compressive strength estimation, integrated waveform, real time stamp and an extended range of transducers

Unbeatable Pundit® Lab Features

Measurement performance; Optimized pulse shaping, automated transmission settings for optimum performance and a range of new, more powerful transducers ensure accurate, stable measurements.

Integrated waveform display; Allows analysis of the received signal and manual triggering directly on the instrument.

On-line data acquisition; Full remote control of all transmission parameters, data logging function and functionality that turns your PC into an oscilloscope.

USB interface and data analysis software; Data analysis and export to third party programs.

Open interface; Control Pundit Lab using third party software such as LabVIEW.

New features in Pundit® Lab⁺

Integrated gain stage; Removes the need for an external amplifier when using exponential transducers and long cables.
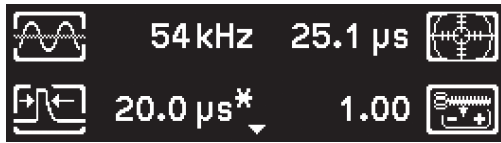
Compressive strength measurement; Conversion curves for strength estimation can be created in the software and uploaded to the instrument to give instant strength estimations on site.

Combined estimates with rebound hammer; SONREB curves may also be uploaded onto the instrument for improved compressive strength estimates in combination with rebound hammer measurements.

Time stamp; A real time clock has been integrated to provide a time stamp to every measurement recorded.

Review list; Saved measurements may be reviewed directly on site without the need for a PC connection.

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Simple Entry of System Parameters

54 kHz   25.1 µs
20.0 µs*   1.00

Tx frequency, calibration, pulse width,
temperature correction

250V   m, MPa, ...
10x

Rx gain, units, receiver gain, transmission mode

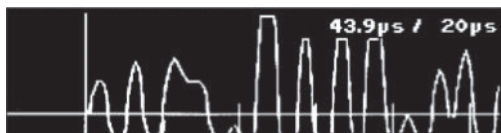## Display of Transmission Time and calculated Parameters

25.6 µs
3466 m/s

Measuring pulse velocity

42.3 µs
53 MPa   97%

Measuring compressive strength
(Pundit Lab+)

Measurement Aids

43.9µs / 20µs

Waveform display for manual triggering

4/16, 19.04.2011, 15:18:31
ID 21, 24.7°C
500kHz, 250V, 1000x, 1.0, R=83.1
t=25.4µs, s=0.200m
*v=4635m/s, 55N/mm², exp_BAM

Data review list
(Pundit Lab+)

An extended Range of Transducers

A complete range from 24 kHz up to 500 kHz for various applications including:

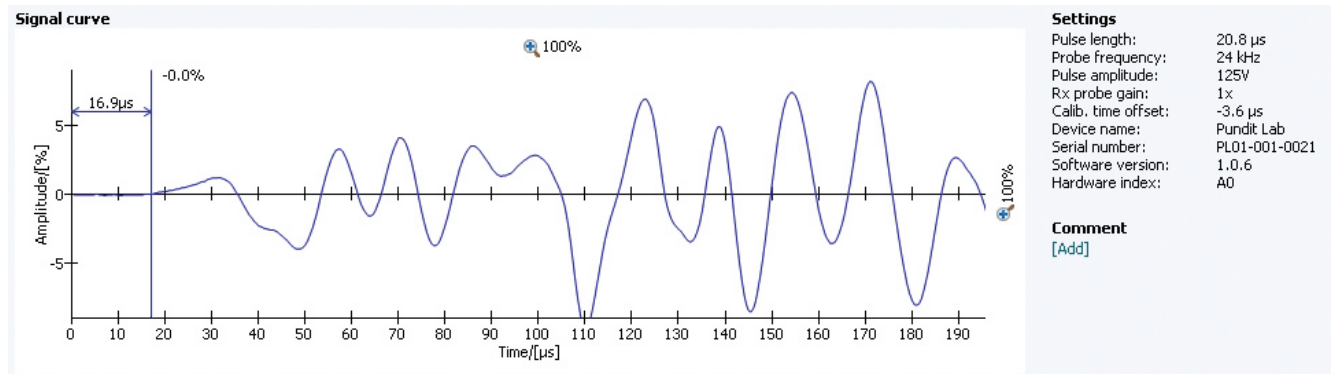|	
Improved 54kHz and 150kHz transducers; A new design with improved performance to increase range and stability.	
Improved 54kHz exponential transducers; A new design with improved performance. When used in combination with Pundit Lab⁺ no external amplifier is required.	
250kHz shear wave transducers; For use in combination with standard P-wave transducers to measure the dynamic elastic modulus of the material under test.	
Transducer Holder; Particularly useful for compound measurements such as surface velocity or crack depth. Individual transducer holders are detachable for standard measurements.	

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Pundit Link Analysis Software

The Windows based software Pundit Link, developed by Proceq SA, unlocks the full capabilities of the Pundit Lab, providing the user with:

- waveform visualization and analysis turning your PC into an oscilloscope
- interactive adjustment of trigger point
- on-line data acquisition
- full remote control of the instrument instrument including programmable data logging functionality
- export of data to third party applications
- (Pundit Lab⁺ only) creation of conversion curves for compressive strength (exponential, polynomial).
- (Pundit Lab⁺ only) creation of SONREB curves for combined (ultrasonic/rebound value) estimates of compressive strength

Signal curve

Settings
Pulse length:	20.8 µs
Probe frequency:	24 kHz
Pulse amplitude:	125V
Rx probe gain:	1x
Calib. time offset:	-3.6 µs
Device name:	Pundit Lab
Serial number:	PL01-001-0021
Software version:	1.0.6
Hardware index:	A0

Comment
[Add]

Equipment Features Pundit Lab / Pundit Lab⁺

Common Features	Pundit Lab	Pundit Lab⁺
Transit time range	0.1-9999 µs	0.1-9999 µs
Resolution	0.1 µs	0.1 µs
Energising pulse	125 V, 250 V, 350 V, 500 V, AUTO	125 V, 250 V, 350 V, 500 V, AUTO
Tx frequency range	24-500 kHz	24-500 kHz
Transit time	Yes	Yes
Pulse velocity	Yes	Yes
Path length	Yes	Yes
Surface velocity	Yes	Yes
Crack depth	Yes	Yes
Memory	> 500 readings	> 500 readings
Power supply	Mains/Battery(>20h)/USB	Mains/Battery(>20h)/USB
New Features	**Pundit Lab**	**Pundit Lab⁺**
Integrated gain stage	1x, 10x, 100x	1x, 2x, 5x, 10x, 20x, 50x, 100x, 200x, 500x, 1000x
Compressive strength	-	Yes
SONREB method (Ultrasonic plus rebound hammer for compressive strength)	-	Yes
Time stamp for measurements	-	Yes
Measurement review list on instrument	-	Yes

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Ordering Information

Units

Part No.	Description
326 10 001	Pundit Lab consisting of: Display unit, 2 transducers (54kHz), 2 BNC cables 1.5 m, couplant, calibration rod, battery charger with USB-cable, 4x AA(LR6) batteries, data carrier with software, documentation and carrying case
326 20 001	Pundit Lab⁺ consisting of: Display unit, 2 transducers (54kHz), 2 BNC cables 1.5 m, couplant, calibration rod, battery charger with USB-cable, 4x AA(LR6) batteries, data carrier with software, documentation and carrying case

Transducers

325 40 026	Transducer 24 kHz (Two required for operation)
325 40 131	Transducer 54 kHz (Two required for operation)
325 40 141	Transducer 150 kHz (Two required for operation)
325 40 176	2 Exponential transducer 54 kHz, including calibration rod
325 40 177	Transducer 250 kHz (Two required for operation)
325 40 175	Transducer 500 kHz (Two required for operation)
325 40 049	2 Shear wave transducers 250 kHz, including couplant

Parts and Accessories

326 80 211	Pundit lab carrying bag
325 40 021	Cable with BNC-plug, L=1.5m (5ft)
711 10 005	Cable with BNC-plug, L=3.0m (10ft)
325 40 022	Cable with BNC-plug, L=10m (33ft)
325 40 024	Cable with BNC-plug, L=30m (100ft)
710 10 031	Ultrasonic couplant, 250 mL bottle
710 10 028	Calibration rod 25 µs for Pundit
710 10 029	Calibration rod 100 µs for Pundit
326 01 033	Demo Block Pundit Lab
325 40 150	Transducer Holder complete

Service and Warranty Information

Proceq is committed to providing complete support for the Pundit Lab by means of our global service and support facilities. Furthermore, each instrument is backed by the standard Proceq 2-year warranty and extended warranty options.

Standard warranty
• Electronic portion of the instrument: 24 months
• Mechanical portion of the instrument: 6 months

Extended warranty
When acquiring a Pundit Lab, max. 3 additional years of warranty coverage can be purchased (for the electronic portion of the instrument). The additional warranty must be requested at time of purchase or within 90 days of purchase.

Applicable Standards

Pundit Lab complies with the following standards:

EN12504-4, ASTM C 597-02, BS 1881 Part 203, ISO1920-7:2004, IS13311, CECS21

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ISO 9001

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