

## Concrete Inspection Solutions

# The broadest & smartest range in Non-Destructive Testing



### Unmatched reliability

with a multi-technology approach. Eddy current, GPR, Ultrasonics + rebound hammers.



### Intelligent software

intuitive mobile and cloud-enabled software, paired with the latest cutting-edge features.



### Advanced sensors

with Swiss-made quality, carefully engineered around the user and field applications.



### Ergonomics and portability

to tackle challenges from the tightest spots, to the tallest walls, with comfort—without cables.



### Collaboration

Annotate measurements with voice, photos and comments. Generate reports and share them instantly. Access your data from anywhere, anytime.

# Holistic & unified portfolio

Productive and fast turnaround on assignments, increased reliability with data and multi-technology approach, yet lower cost of on-site investigations - and ultimately public safety peace-of-mind.



## Proceq® GPR Live

Inspection of concrete structures with true ultrawideband radar and imaging software.

- Proceq GP8800
- Proceq GP8000



## Pundit® Ultrasonic Instruments

Structural imaging, object and defect detection using ultrasound pulse echo.

- Pundit PD8000
- Pundit 250 Array
- Pundit 200 Pulse Echo
- Pundit 200
- Pundit Lab (+)



## Schmidt® Rebound Hammers

Concrete strength and uniformity testing using rebound hammer technology.

- Silver Schmidt OS8200
- Original Schmidt OS8000
- Schmidt OS-120
- Original Schmidt



## Profometer® Rebar Locators

Rebar location, diameter, cover and corrosion mapping using eddy current and half-cell potential.

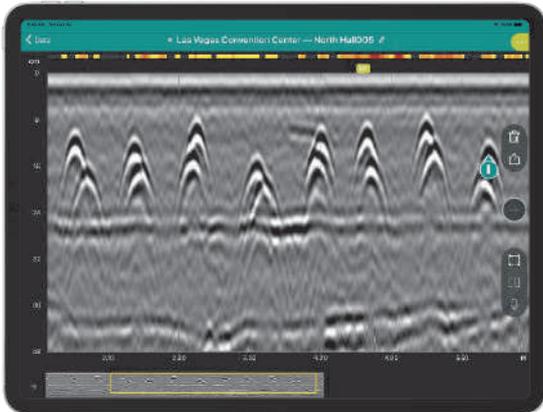
- Profometer 650 AI
- Profometer 630 AI
- Profometer 600
- Profoscope (+)

Our inspection experts and global network of more than 200 distribution partners will be delighted to tell you more about these and other solutions that will put you in control of your daily challenges.

[SCAN HERE TO LEARN MORE](#)



# Proceq® GPR Live



GP8800

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## Structural imaging and inspection with SFCW ground penetrating radar technology

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### Performance

Superior depth and clarity of data thanks to the unique Swiss Made radar technology with all the frequencies you'll ever need. Immediate insights with 3D and Augmented Reality.



### Versatility

Inspect with ease of use, from the tightest spots to the tallest walls. Tiny footprint and gigantic flexibility. Superior ergonomics to tackle any challenge with comfort—without cables.



### Productivity

A mobile app that lets you annotate measurements with voice, photos, and comments. Generate reports and share them instantly. Access your data from anywhere, anytime.

# Proceq® GP8800

Model	Pro
Applications	Concrete hit prevention, as-built verification, structural investigation, slab thickness measurement, void detection
Software sourcing option	Subscription
EagleCare	Available
Time-Slice View Pro	●
3D View with ColorDepth	●
Augmented Reality (AR)	●
Cloud synchronization	●
Cloud sharing via URL	●
Cloud-enabled Logbook	●
Cloud-based SEG-Y export	●
Cloud-based report generation	●
<b>Features</b>	
A-scan incl. envelope	●
Non-migrated view	●
Migrated view	●
Area Scan	●
Flexible Grid	●
Exporting formats	JPG, PNG, CSV, SEG-Y, HTML
Time-Slice View Basic	●
Max. line scan length	1000 m / 3281 ft
Max. area scan size	120 x 120 cm / 47.2 x 47.2 in

iPad is a trademark of Apple Inc.; iOS is a registered trademark of Cisco in the US and is used by Apple under license.

\*in dry concrete

\*\*without battery



Probe	
Radar technology	Stepped-Frequency Continuous-Wave GPR
Frequency range	400 – 6000 MHz
Depth penetration*	65 cm / 25.6 in
Dimensions**	90 x 90 x 60 mm / 3.5 x 3.5 x 2.4 in
Weight**	460 g / 16.2 oz
Antenna distance to edge	45 mm / 1.77 in
Path measurement	Wireless wheel, ±2% accuracy
Cross-polarization	Yes, adjustable at any time
Ground clearance	0 mm / 0 in

## Operating parameters

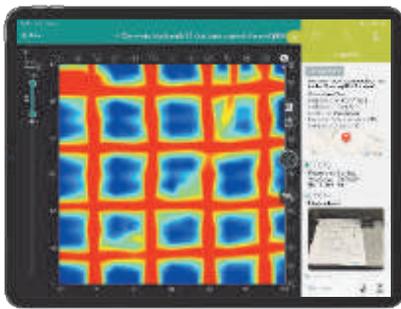
Built-in battery	Removable pack, 4x AA (NiMH), flight-safe
Off-the-shelf power bank	5V DC, at least 2A
Autonomy	2.5 h (up to 8 hours with off-the-shelf 10'000 mAh power bank)
Connectivity	Wi-Fi® and USB-C to iPad
Status indication	RGB LEDs
Certification	EN ETSI / RED
IP rating	IP54
Operating temperature	-10 to 50 °C / 14 to 122 °F
Operating humidity	<95% RH, non-condensing

## Display and processing unit (not included)

Model	Any iPad® (min. iOS 10)
CPU	6-core, 64-bit
Screen technology	Liquid or Retina Display
Screen size	7.9" to 12.9"
Screen resolution	Up to 2732 x 2048 pixels and 326 ppi
Screen type	LED-backlit with multi-touch and IPS technology
Weight	Down to 301 g / 10.6 oz
Storage capacity	Up to 1 TB
Connectivity	Wi-Fi® (802.11a/b/g/n), LTE/5G
Positioning	GPS, A-GPS, GLONASS
User interface languages	English, Chinese, German, Japanese, Korean



# Proceq GPR Live



GP8000 | GP8800

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## Structural imaging and inspection with SFCW ground penetrating radar technology

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### Performance

Superior depth and clarity of data thanks to the unique Swiss Made radar technology with all the frequencies you'll ever need and. Immediate insights with 3D and Augmented Reality.



### Versatility

Inspect with ease of use, from the tightest spots, to the tallest walls, to the longest streets. Superior ergonomics to tackle any challenge with comfort, without cables.



### Productivity

A mobile app that lets you annotate measurements with voice, photos, and comments. Generate reports and share them instantly. Access your data from anywhere, anytime.

# Proceq GPR Live



Software	Proceq GPR Live app
Measurement modes	Line Scan Area Scan (with Flexible Grid)
Review modes	A-scan (incl. envelope) Non-migrated view Migrated view Time-Slice View Basic
Advanced visualization	Time-Slice View Pro 3D View Augmented Reality (AR)
Traceability and reporting	Cloud synchronization Share via URL Cloud-enabled Logbook Cloud-based SEG-Y export Cloud-based report generation
Exporting formats	JPG, PNG, CSV, SEG-Y, HTML
Maximum line scan length	1000 m / 3281 ft
Maximum area scan size	4 x 4 m / 13 x 13 ft

## Other

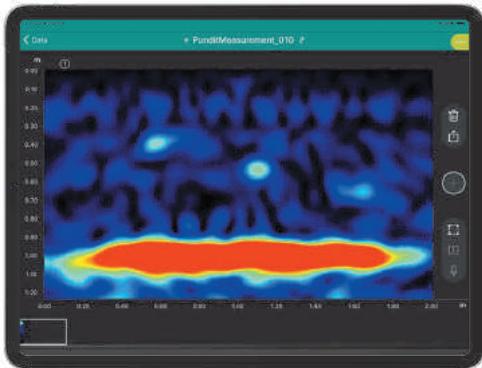
Display and processing unit	iPad (min. iOS 11, not included)
CPU	64-bit ARM
Screen technology	Liquid or Retina Display
Screen size	7.9" to 12.9"
Screen resolution	Up to 2732 x 2048 pixels / 326 ppi**
Screen type	LED-backlit with multi-touch and IPS technology
Weight	Down to 308.2 g / 0.68 lbs**
Storage capacity	Up to 1TB
Connectivity	Wi-Fi, LTE
Standards and guidelines	AASHTO R 37-04, ACI 228.2R.98, ASTM D4748-10, ASTM D6087-08, ASTM D6432-11
Accessories	AR-enabled grid paper, telescopic rod, device tablet holder (Proceq GP8000)
Availability	Purchase (Basic, Proceq GP8000 only) or subscription (Pro)

Model	Proceq GP8000	Proceq GP8800
<b>Applications</b>		
Congested rebar configurations		●
Areas underneath pipes		●
Areas close to walls		●
Irregular and curved surfaces		●
Concrete hit prevention	●	●
As-built verification	●	●
Structural investigation	●	●
Slab thickness measurement	●	●
Live wire detection	●	
Shallow utility locating	●	
Pavement scanning	●	
Radar technology	Stepped-frequency continuous-wave GPR	
Modulated frequency range	200 – 4000 MHz	400 – 6000 MHz
Depth penetration	80 cm / 31.5 in	65 cm / 25.6 in
Dimensions	22.1 x 18 x 14 cm 8.7 x 7.1 x 5.5 in	89 x 89 x 76 mm 3.5 x 3.5 x 3 in
Antenna distance to edge	83 mm / 3.27 in	45 mm / 1.77 in
Weight (excl. battery pack)	1.5 kg / 3.3 lbs	487 g / 17.2 oz
Path measurement		±2% accuracy
Adjustable antenna orientation	N/A	Yes, adjustable at any time, no tools required
Ground clearance	8 mm / 0.32 in	0
Built-in battery	Removable pack, 8x AA (NiMH), flight-safe	Removable pack, 4x AA (NiMH), flight-safe
Autonomy	3 h	2.5 h (up to 8 hours with off-the-shelf 10'000 mAh power bank, not included)
Connectivity	Wi-Fi (802.11n) to display unit	WiFi (802.11n) and USB-C to display unit
Certification	FCC, IC, EN ETSI 302 066 / RED	
IP rating	IP54	

iPad is a trademark of Apple Inc.  
\*in dry sand; \*\*in dry concrete; \*\*\*iPad Mini 2019



# Pundit® Live Array Pro



PD8000

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## Structural concrete evaluation and imaging using enhanced ultrasonic pulse echo technology

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### Performance

Unmatched sharpness, precision, stability and depth penetration thanks to revolutionary image focusing paired with sophisticated real-time algorithms.



### Future readiness

Extendable probe powered by the future-oriented software smartly complements your Proceq GPR to expand your inspection capabilities.



### Productivity

Ultimate peace of mind delivered by on-site A.I.-assisted positioning and data interpretation. Get to your insights fast with immediate visualization, including 3D and AR.

# Pundit® Live Array



Pundit® 250 Array



Pundit® PD8000 Basic



Pundit® PD8000 Pro

## Visualization features

High definition focus view			•
Local focusing macro view			•
Augmented Reality			•
3D view		•	•
3D view with ColorDepth			•
A.I.-assisted positioning		•	•
A.I.-assisted feature interpretation			•
A.I.-assisted material identification			•
Image stabilization			•
Ultrasonic Pulse Velocity from one Side		•	•

## Cloud features

Cloud synchronisation		•	•
Cloud sharing via URL		•	•
Cloud-enabled Logbook		•	•
Cloud-based raw data export		•	•
Cloud-based HTML-data export			•
Cloud-based report generation			•

## Measurement modes

Line Scan	•	•	•
Stripe Scan		•	•

## Review modes

A-scan (incl. envelope)	•	•	•
B-scan (Line view)	•	•	•
C-scan (Time-slice view)		•	•

## Applications

Depth range	Up to 1 m / 3 ft	1+ m / 3+ ft	2+ m / 6+ ft
Void and delamination detection	•	•	•
Bonding assessment	•	•	•
Thickness measurement		•	•
Honeycombing detection		•	•
Fiber concrete		•	•
Concrete hit prevention			•
Imaging of closely spaced rebars			•

## Probe

	Pundit® PD8000 (Multi-channel Ultrasonic Pulse Echo)		
Number of channels	8 (upgrade to 16 available)		
Frequency range	40 kHz (30 - 80 kHz)		
Dimensions / Weight / Storage capacity	240 x 273 x 153 mm (94.5 x 107.5 x 60.2 in) / 3.0 kg (6.6 lbs) / up to 1 TB		
Battery type	Removable pack, 6x AA (NiMH), flight-safe		
IP rating	IP54		
Operating temperature and humidity	-10 to 50 °C (14 to 122 °F) / <95% RH, non-condensing		
Guidelines	RI-ZFP-TU, FCC Part 15: 2010, Class A Digital Device, ZTV-ING Teil 5 Tunnelbau, ACI 228.2R-13		

## Display and processing unit

	Any iPad® (min. iOS 10)		
CPU	6-core, 64-bit		
Screen technology, type, size, and resolution	Liquid® Retina Display, LED-backlit with multi-touch and IPS technology, 7.9" to 12.9", up to 2732 x 2048 pixels and 326 ppi		
Weight	Down to 301 g / 10.6 oz		
Storage capacity	Up to 1 TB		
Connectivity	Wi-Fi® (802.11a/b/g/n), LTE/5G		
Positioning	GPS, A-GPS		
User interface languages	English, Chinese, German, Japanese, Korean		

## Accessories

	Ergonomic kit, A.I. positioning tape, Pundit PD8000 battery pack, battery set; Pundit 250 Array only: Battery complete, Quick Charger		
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<b>Upgrade</b>	Pundit® PD8000 Pro	Pundit® PD8000 Pro	-
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<b>Software sourcing option</b>	Purchase	Purchase	Subscription
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# proceq

🇨🇭 Solutions since 1954

## Pundit® 250 Array Ultrasonic Imaging Scanner



Interactive

# Deep scanning of concrete and fibre reinforced concrete

## Thickness measurements

Thick concrete elements and tunnel linings

## Localization of defects

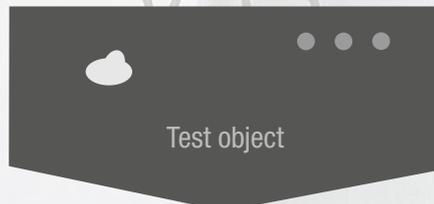
Voids, honeycombing and depth and extent of delaminations

## Detection of objects

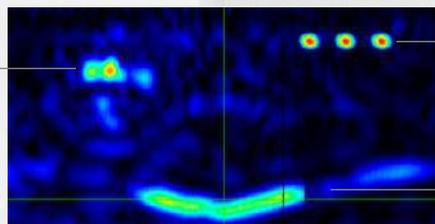
Pipes and tendon ducts beyond the rebar layer



## Intuitive output – more than just graphs or values!



Rapid identification of suspect areas



Rebar detection in near field

Accurate depth measurement >1m

# A Quantum Leap in Ultrasonic Pulse Echo Testing



## Effective

- ✓ High quality images of defects, rebars and tendon ducts
- ✓ Superior near field performance
- ✓ Highly durable ceramic tips



- ✓ No couplant required due to dry point contact technology



## Time saving

- ✓ Real-time B-scan visualization
- ✓ Image optimization before saving a scan
- ✓ Panorama B-scans for rapid identification of suspect areas
- ✓ Scan several meters in less than a minute
- ✓ Lightweight and compact design for increased accessibility and faster scans



## Versatile

- ✓ Single handed positioning
- ✓ Double handle upgrade for increased control



- ✓ Upgrade to 16 channels to double the scan width

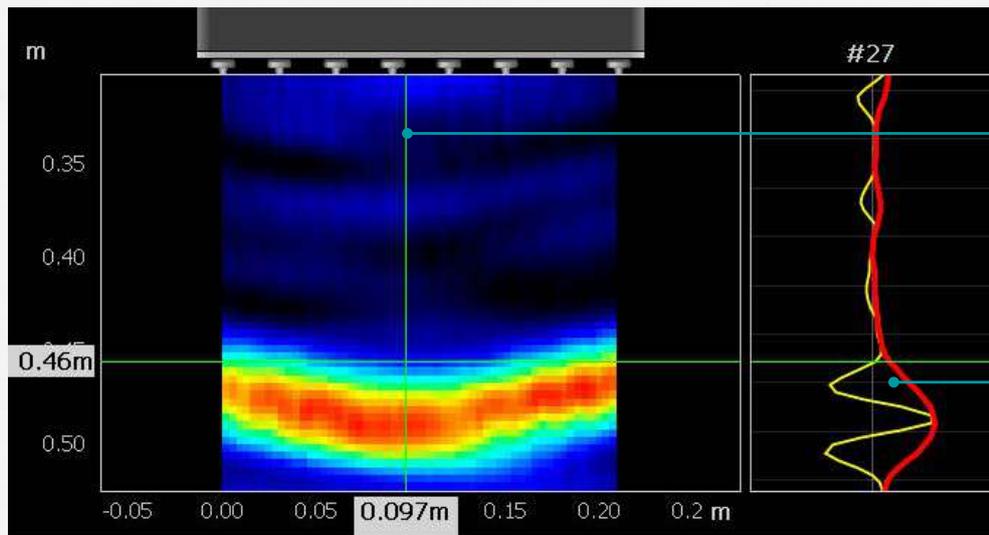


- ✓ Raw data export

# High Resolution Imaging

## Optimize Live Image Before Saving

### Real-time B-scan

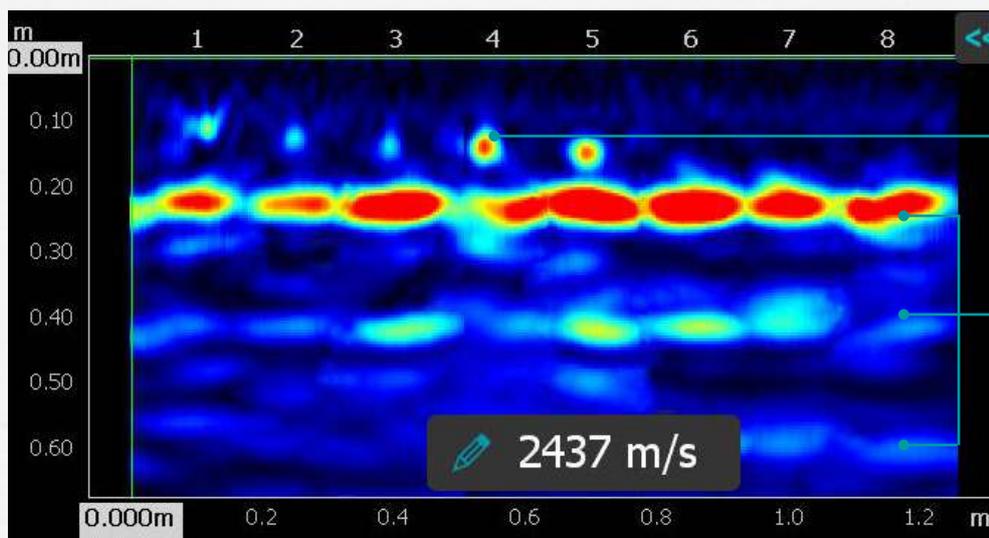


Cursors for depth and horizontal displacement information

A-scan with envelope function for accurate echo identification

Spot check with immediate visualization of the backwall

### Panorama B-scan



Imaging of individual rebars and pipes

Back wall with multiple echos for accurate pulse velocity determination

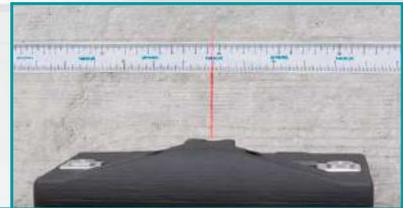
1.2 meter fibre reinforced concrete scanned in only 20 seconds

# Pundit Array Transducer

Rugged, Lightweight and Scalable

Display for status information and immediate feedback

Integrated laser for guided measurements



Removable battery pack with rechargeable AA batteries

Fast charging including LED indicator

Buttons to control main scanning functions

## Double Handle Upgrade For Additional Control

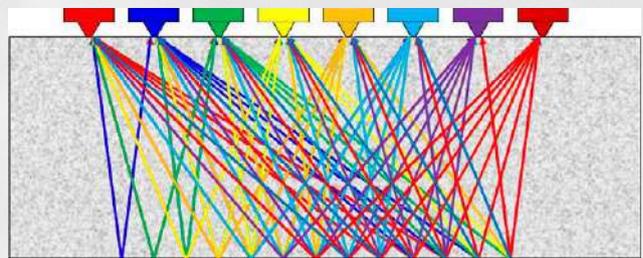
- ✓ Buttons on both handles
- ✓ Optimize gain settings and trigger a measurement



## The technology

The Pundit 250 Array is based on the ultrasonic multi-channel pulse echo technology using 8 channels. One channel transmits and the echoes are received by the other seven channels. Each channel transmits in turn.

A complete measurement consists of 28 A-scans. These are used to compute and display a B-scan in real-time using the Synthetic Aperture Focusing Technique (SAFT). Coupling two transducers results in a 16 channel aperture processing a total of 240 A-scans per measurement cycle.



## Technical specifications

### Pundit Array Transducer

Gain	0 to 80 dB
Analog bandwidth	15 to 100 kHz
Nominal transducer frequency	50 kHz shear wave
Range / resolution	0 to 1000 $\mu$ s / 1 $\mu$ s
Pulse voltage	+/-150 V
Pulse shape	Square wave
Pulse delay	8 to 200 ms
Number of channels	8 (with upgrade option to 16)
Battery lifetime	> 7 h
Dimensions	240 x 273 x 153 mm
Weight	~ 3 kg

### Pundit Touchscreen

Display	7" colour display 800 x 480 pixels
Memory	Internal 8 GB flash memory
Regional settings	Metric and imperial units and multi-language and timezone supported
Power input	12 V +/-25 % / 1.5 A
Battery	3.6 V, 14 Ah
Battery lifetime	> 8 h (in standard operating mode)
Humidity	< 95 % RH, non condensing
Operating temperature	-10 to +50 °C
IP classification	IP 54
Dimensions	250 x 162 x 62 mm
Weight	~ 1.5 kg (incl. battery)

## Master training on ultrasonic testing

Proceq master training courses take place at the Proceq training facilities in Schwerzenbach (Switzerland), Pittsburgh (USA) and Singapore and include classroom lectures and hands-on sessions. The training sessions require a technical background or prior experience with the respective NDT products. Please contact our website or your local Proceq representative.

# Ordering Information

## Flexible and Future-Proof

**327 30 110 Pundit 250 Array**  
 consisting of Pundit touchscreen, Pundit Array transducer, Pundit Array software, Pundit Array cable 12-pin 1.5m, Pundit Array contact tester, 6x Rechargeable AA NiMH batteries, power supply, USB cable, calibrated tape, DVD with software, documentation, carrying strap and carrying case



**327 30 130 Upgrade Kit to Pundit 250 Array**  
 consisting of Pundit Array transducer, Pundit 250 Array software, Pundit Array cable 12-pin 1.5m, Pundit Array contact tester, 6x Rechargeable AA NiMH batteries, calibrated tape, DVD with software, documentation, carrying case.



### Upgrades

to 16 channel → **327 30 140 Pundit Array 16 Channel Upgrade Kit**  
 consisting of Pundit Array transducer, Pundit Array transducer extension kit, Dual handle kit, Power supply, 6x Rechargeable AA NiMH, Pundit Array carrying case.

to dual handle → **327 30 370 Dual Handle Kit**

### Upgrade kit for existing Pundit 200 users

## Accessories

- 327 30 337 **Pundit Array Transducer Battery Pack Complete**
- 327 30 384S **Rechargeable AA NiMH battery (Set of 6)**
- 327 01 071S **Calibrated Tape (Set of 5)**

## Service and Support

Proceq is committed to providing the best support and service available in the industry through the Proceq certified service centers worldwide. This results in a complete support for the Pundit by means of our global service and support facilities.

## Warranty Information

Each instrument is backed by the standard Proceq warranty and extended warranty options.

- Electronic portion of the instrument: 24 months
- Mechanical portion of the instrument: 6 months

Subject to change without notice. All information contained in this documentation is presented in good faith and believed to be correct. Proceq SA makes no warranties and excludes all liability as to the completeness and/or accuracy of the information. For the use and application of any product manufactured and/or sold by Proceq SA explicit reference is made to the particular applicable operating instructions.



# Proceq – A Success Story since 1954



## Market Leader

Proceq SA, founded 1954 in Switzerland, is the global leader in portable measurement solutions for the non-destructive testing of material properties of metal, concrete, rock, paper and composites.

 [Find out more on the Proceq history](#)

**PATENTED**

**INDUSTRY STANDARD**

**NON-DESTRUCTIVE**

**pundit®**

**PULSE VELOCITY**

**SONREB**

**PULSE ECHO**

**ARRAY**



## Worldwide Local Support

Our team of dedicated experts are available to advise you on our instruments and their applications. In addition you may take further benefits from our instructional videos, evaluation tools, online webinars and of course our live seminars globally.



## Swiss Made

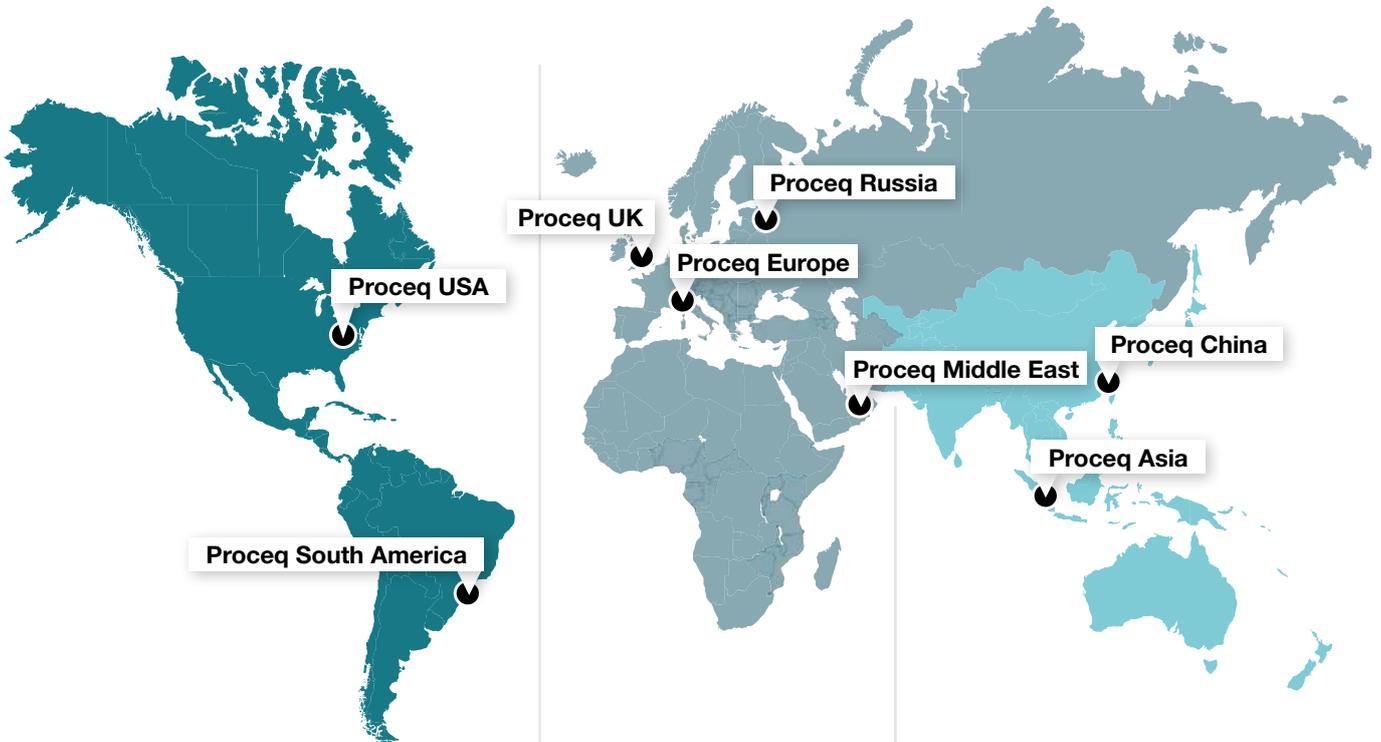
Proceq instruments are developed, designed and manufactured in Switzerland. Since 1994, Proceq has been certified to the ISO 9001 standards that guarantee highest quality of processes, products and services.



## Experience

Proceq has been a proud innovator in the field of portable non-destructive testing, developing solutions that have conquered the inspection industry for decades. Most famous brands are Equotip®, Schmidt®, Pundit®, Profometer® and Carboteq®.

 Click on the Proceq subsidiaries for more information



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Globally organized seminars to help you learn more about our products and applications.  
Contact your local representative for further information.

### Proceq SA

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**proceq**

**PUNDIT® PL-200**  
ULTRASONIC PULSE VELOCITY

**PUNDIT® PL-200PE**  
ULTRASONIC PULSE ECHO





pundit

proceq

# PUNDIT® TOUCHSCREEN UNIVERSAL

## Proceq – History of Innovation since 1954

Proceq SA of Switzerland, founded in 1954, is a leading manufacturer of the highest quality portable instruments for non-destructive testing of materials. The ubiquitous Original Schmidt concrete test hammer and the patented SilverSchmidt (Q-value) are just an excerpt of Proceq's proud inventions.

## Industry Standard Pundit

Pundit is a de facto industry standard brand and widely recognized as the first commercial field (on-site) device to measure Ultrasonic Pulse Velocity. Proceq acquired Pundit in 2009 and later launched the popular Pundit Lab and Pundit Lab+.

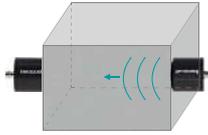
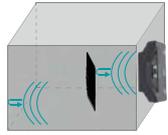
## New Pundit Touchscreen

The **Pundit PL-200** and **Pundit PL-200PE** continue the illustrious Pundit tradition that began in the 1970s. They are the first Proceq products to be developed using a new generation and design-protected Touchscreen Unit.



- ✓ Housing specially designed to be used on-site in harsh environments
- ✓ Screen with highest resolution and sharpest image available in the market allowing best possible analysis of the measured waveforms
- ✓ 8 GB Flash memory allowing storage of up to 100'000 A-Scans
- ✓ Dual core processor supporting diverse communication and peripheral interfaces
- ✓ Modular concept: Expandable with all Proceq Pulse Velocity and Pulse Echo transducers
- ✓ Future proof investment: upcoming Pundit ultrasonic products will be directly compatible

## Applications Overview

Pundit PL-200	Pundit PL-200PE
Through Transmission: Access from two sides	Pulse Echo: Single side access
	
Assessment of Concrete Quality	
Ultrasonic Pulse Velocity	
Uniformity	
Compressive strength and SONREB	Slab thickness from a single side
Determination of crack depth	Detection and localization of voids, pipes, cracks (parallel to surface), and honeycombing
Modulus of elasticity	
Scan Modes	
A-Scans Line Scans E-Modulus Data Logging Area Scan	A-Scans B-Scans Area Scan

- ✓ Never before has the user had such a control over the measurement procedure in real time directly on-site!



# PUNDIT® PL-200

## ULTRASONIC PULSE VELOCITY

### Pundit PL-200 – The new Benchmark for Ultrasonic Pulse Velocity Testing

Best-in-class Ultrasonic testing instrument providing superior features for on-site testing:

- ✓ Line Scans and Area Scans for concrete uniformity assessment
- ✓ Zoom and scroll for precise A-Scan inspection
- ✓ On board storage and review of waveforms
- ✓ Settings directly accessible on measuring screen
- ✓ Dual cursor for manual A-Scan evaluation
- ✓ Separate cursor to measure signal amplitude
- ✓ Improved surface velocity measurement
- ✓ Automatic and manual triggering and user adjustable trigger threshold
- ✓ A-Scan update rate up to 40 Hz
- ✓ Expandable with Pundit Pulse Echo transducer



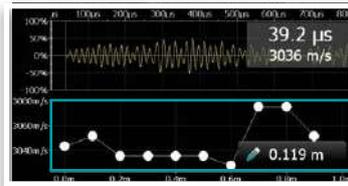
#### Ordering Information Pundit PL-200

Part Number: 327 10 001

Consisting of: Pundit Touchscreen, 2 Transducers 54 kHz, 2 BNC cables 1.5 m, couplant, calibration rod, BNC adapter cable, power supply, USB cable, DVD with software, documentation, carrying strap and carrying case

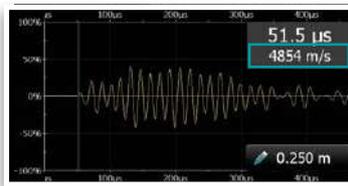
### Comprehensive Measurement Modes

#### Line Scans



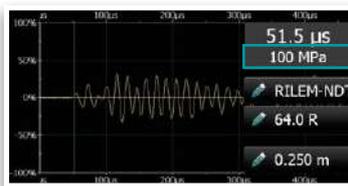
Assesses the concrete uniformity and detects cracks as well as other defects. The measured pulse velocities are displayed as a line.

#### Pulse Velocity



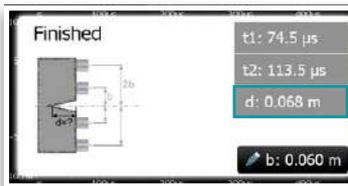
Calculates the pulse velocity of the material under test.

#### Compressive Strength



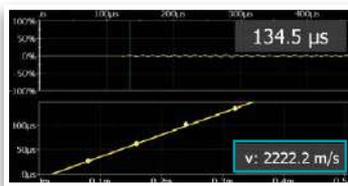
Determines the compressive strength using Ultrasonic Pulse Velocity correlation, or by using SONREB.

#### Crack Depth



Determines the depth of perpendicular cracks according to BS 1881.

#### Surface Velocity



Determines surface velocity according to BS 1881.

**Transmission Time:** Measures the transmission time.

**Distance:** Calculates the distance between the transducers.

**Standards and Norms:** EN12504-4 (Europe), ASTM C 597-02 (North America), BS 1881 Part 203 (UK), ISO1920-7:2004 (International), IS13311 (India), CECS21 (China).

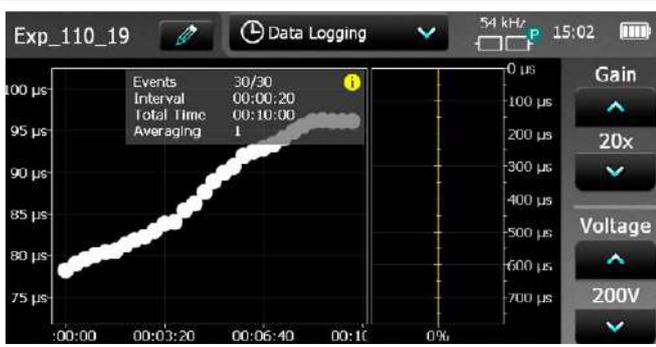
# PUNDIT® PL-200 ULTRASONIC PULSE VELOCITY

## Additional Measurement Modes

### E-Modulus

Determine the dynamic E-Modulus of a material (e.g. concrete or rock) by measuring P- and S-wave pulse velocities.

- ✓ Direct calculation of the E-Modulus on the instrument
- ✓ Measure P- and S-wave velocities on the same screen (Dual Cursor)
- ✓ Poisson's Ratio also calculated on PL-Link software



### Data Logging

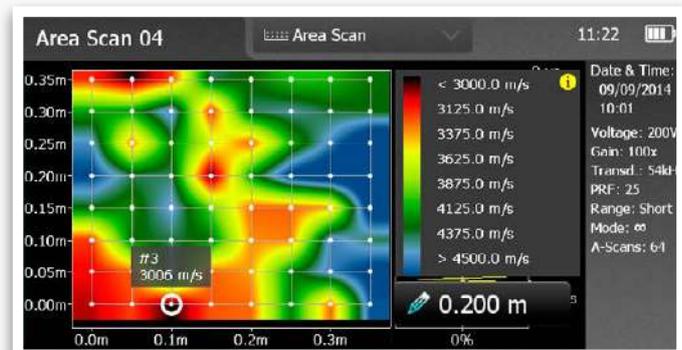
Set up automated test sequences for long term measuring applications.

- ✓ Countdown timer indicates time to next measurement
- ✓ Pulse velocity development shown graphically on screen

### Area Scan

2D-visualization for uniformity testing on structural elements.

- ✓ User definable colour classification based on pulse velocity or transmission time
- ✓ User definable grid pattern for small to large scale measurements
- ✓ All measurements can be edited (deleted, re-measured)



# PUNDIT® PL-200

## ULTRASONIC PULSE VELOCITY

### Pulse Velocity Transducers

Proceq offers an extensive range of transducers providing highest accuracy and a proven field track record. The selection of the correct transducer is dependent on the aggregate/grain size and the dimensions of the test object.

Bandwidth and aperture size	Image	Test Object Limitations			Applications
		Wavelength*	Maximum grain size	Minimum lateral dimension	
P-wave Transducers					
<b>24 kHz</b> Ø50 mm x 95 mm		154 mm	≈ 77 mm	154 mm	» Concrete: Very coarse aggregate and large objects (several meters)
<b>54 kHz</b> Ø50 mm x 46 mm		68.5 mm	≈ 34 mm	69 mm	» Concrete » Wood » Rock
<b>150 kHz</b> Ø28 mm x 46 mm		24.7 mm	≈ 12 mm	25 mm	» Fine grained material » Refractory bricks » Rock (NX cores)
<b>250 kHz</b> Ø28 mm x 46 mm		14.8 mm	≈ 7 mm	15 mm	» Fine grained material » Refractory bricks » Rock » Use on small samples
<b>500 kHz</b> Ø57 mm x 32 mm		7.4 mm	≈ 3 mm	7 mm	» Fine grained material » Refractory bricks » Rock » Use on small samples
<b>54 kHz</b> Ø50 mm x 100 mm		68.5 mm	≈ 34 mm	69 mm	» Concrete: Rough and rounded surfaces (no couplant required) » Wood » Rock (heritage sites)
S-wave Transducer					
<b>250 kHz</b> Ø41 mm x 32 mm		10 mm	≈ 5 mm	Greater than the thickness of the object.	» Used for determination of elastic modulus » Concrete, wood, rock (small samples only) » Requires special shear wave couplant

\*A pulse velocity of 3700 m/s (longitudinal wave) and 2500 m/s (shear wave) have been used for the computation of the wavelengths.

# PUNDIT® PL-200PE

## ULTRASONIC PULSE ECHO

### Pundit PL-200PE – Groundbreaking Ultrasonic Pulse Echo Testing

The Pulse Echo technology widely extends the application range of the Pundit Touchscreen Unit and offers a variety of special features:

- ✓ **Single side determination of slab thickness**
- ✓ **Detection and localization of voids, pipes, cracks (parallel to surface) and honeycombing**
- ✓ **Advanced echo tracking technology helps identifying the main echo**
- ✓ **Control buttons and optical feedback directly on the probe increase measurement efficiency**
- ✓ **Automatic estimation of the Pulse Velocity**
- ✓ **Easy B-Scan measuring through center marker and rulers directly on the probe**
- ✓ **Dry-contact transducer: no couplant required, suited for measuring on rough surfaces**
- ✓ **Lightweight and ergonomical handling**
- ✓ **Expandable with Pulse Velocity transducers**



#### Ordering Information Pundit PL-200PE

Part Number: 327 20 001

Consisting of: Pundit Touchscreen, Pundit Pulse Echo Transducer incl. cable, contact tester, power supply, USB cable, calibrated tape, DVD with software, documentation, carrying straps and carrying case

### Scan Modes

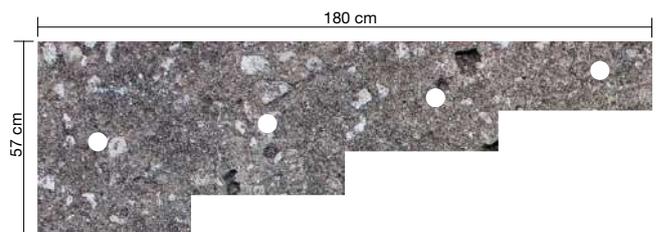
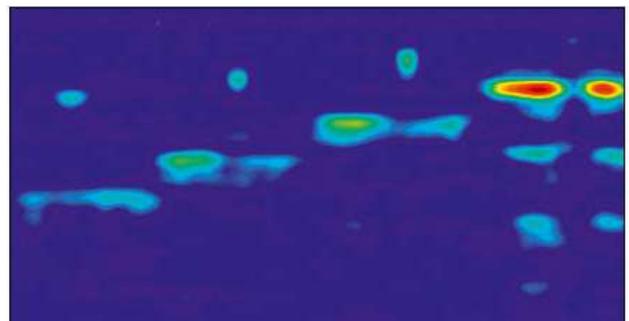
#### A-Scan

- » A-Scan allows direct analysis of the raw signal.
- » Digital filters for better echo visibility and noise suppression.
- » Automatic readout of slab thickness (Echo tracker).

#### B-Scan

- » A cross-sectional view perpendicular to the scanning surface is provided. It facilitates the search for pipes, cracks, voids, etc.
- » State-of-the-art image processing for improved image quality.
- » Cursor placement allows a direct readout of the slab thickness and the location of hidden objects or defects.

Example: B-Scan of a concrete object containing steel pipes:



Center marker and rulers directly on the transducer help generating the B-Scan:



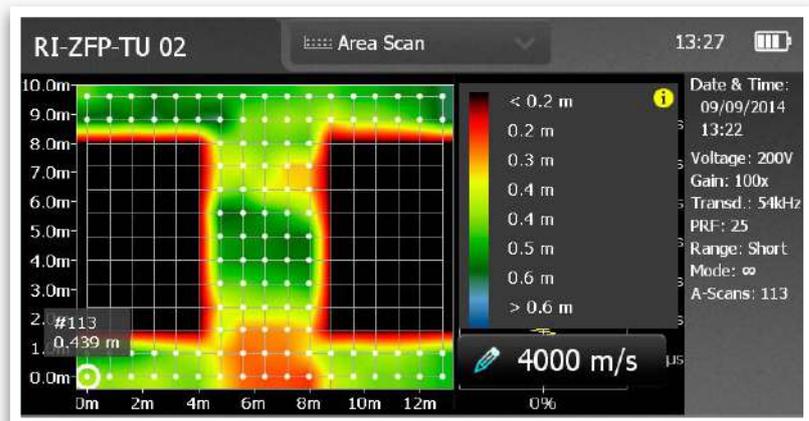
# PUNDIT® PL-200PE ULTRASONIC PULSE ECHO

## Additional Measurement Mode

### Area Scan

2D-visualization for uniformity testing of slab thickness on structural elements.

- ✓ User definable colour classification based on thickness measurements
- ✓ Grid pattern fully adjustable e.g. for tunnel lining thickness variations as described in RI-ZFP-TU guideline



## Pulse Echo Transducer

The Pulse Echo transducer is a shear wave transducer designed for single-handed and two-handed operation. It is particularly suited to testing where access is limited to a single side.

Bandwidth and aperture size	Test Object Limitations				
	Wavelength*	Maximum grain size	Minimum lateral dimension	Penetration depth	Minimum object detectable
50 kHz 2x25 cm <sup>2</sup>	50 mm	50 mm	2x thickness	Typically 500 mm (up to 1000 mm under ideal conditions)	30 mm air cylinder

\*A pulse velocity of 2500 m/s has been used for the computation of the wavelength.

## Regular Firmware Upgrades

Proceq continuously updates and improves the instrument software. Benefit from major firmware releases that extend the functionality and increase the value of Pundit instruments to all existing users free of charge during the product lifetime. The instruments can be upgraded via the internet or from local files.



### NDT Concrete Ultrasonic Training Concept

Proceq's training modules are strongly focused on a practical approach to routine testing of in-situ concrete quality using the **Pundit range of ultrasonic products**.

Training facilities are located at Proceq headquarters in Schwerzenbach (Switzerland), Chicago (USA) and Singapore. All training modules are conducted in English (German, French and Spanish can be organized on demand).

Training fees include all necessary training material and documentation and exclude all travel, accomodation and meal. Course dates are determined by Proceq. Please contact your local Proceq representative.

#### Essentials of Non-Destructive Testing (NDT) of Concrete using Ultrasonic Methods

Description	Prerequisites	Duration	Locations	Course No.
Characteristics of concrete; overview of NDT methods; ultrasonic pulse velocity principles and methods for assessing compressive strength of concrete, detecting voids and cracks; transducer types; product and practical training (Pundit Lab, Pundit Lab+, Pundit PL-200).	Any technical background or prior experience with NDT products will allow quicker and deeper comprehension of the course material.	1 day	<ul style="list-style-type: none"> <li>Schwerzenbach (Zuerich, Switzerland)</li> <li>Chicago (United States of America)</li> <li>Singapore</li> </ul>	970 00 300

#### Advanced Ultrasonic Tomography Applications

Description	Prerequisites	Duration	Locations	Course No.
NDT ultrasonic methods to evaluate concrete from a single surface; using tomography to detect air filled voids and cracks; locate structural elements, pipes, ducts and honeycombing. Product and practical training (Pundit PL-200PE); detailed review and interpretation of specific tomographic application examples.	Participants are expected to be experienced NDT users, any on-site ultrasonic experience will allow a focused discussion on specific application issues.	1 day	<ul style="list-style-type: none"> <li>Schwerzenbach (Zuerich, Switzerland)</li> <li>Chicago (United States of America)</li> <li>Singapore</li> </ul>	970 00 400

#### Application Support Service



"Ask Malcolm" is an Application Support Service provided by Proceq to owners and users of the PL-200PE who have completed the corresponding advanced training module. It is supported by a team of renowned experts who have years of hands-on, on-site NDT inspection expertise.

#### Prerequisites

Purchase of a PL-200PE;  
Completion of the module "Advanced Ultrasonic Tomography Applications" with course no. 970 00 400

#### Access

Proceq website

# PUNDIT® PL-200

## ULTRASONIC PULSE VELOCITY

# PUNDIT® PL-200PE

## ULTRASONIC PULSE ECHO

### Ordering Information

#### Units

PART NO.	DESCRIPTION
327 10 001	Pundit PL-200
327 20 001	Pundit PL-200PE
327 10 002	Pundit Touchscreen without transducers

#### Supplementary Transducers

325 40 026S	2 Transducers 24 kHz
325 40 131S	2 Transducers 54 kHz
325 40 141S	2 Transducers 150 kHz
325 40 177S	2 Transducers 250 kHz
325 40 175S	2 Transducers 500 kHz
325 40 176	2 Exponential Transducers 54 kHz, incl. calibration rod
325 40 049	2 S-Wave Transducers 250 kHz, incl. couplant
327 40 130	Pundit Pulse Echo Transducer, incl. cable and contact tester
327 20 002	Pundit PL-200PE UPV Kit

#### Accessories

327 01 043	Carrying strap complete
325 40 150	Transducer holder complete
327 01 049	BNC adapter cable for Pundit PL-200
325 40 021	Cable with BNC-plug, 1.5 m (5 ft)
325 40 022	Cable with BNC-plug, 10 m (33 ft)
710 10 031	Ultrasound couplant, 250 ml
325 40 048	Shear wave couplant, 100 g
327 01 033	Battery complete
327 01 053	Quick charger (external)
710 10 028	Calibration rod 25 µs for Pundit PL-200
710 10 029	Calibration rod 100 µs for Pundit PL-200
327 01 071S	Calibrated Tape (Set of 5)

#### Proceq SA

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info@proceq.com  
www.proceq.com

810 327 01E ver 09 2014 © Proceq SA, Switzerland. All rights reserved.

### Technical Specification

	Pundit PL-200	Pundit PL-200PE
Range	0.1 – 7930 µs	
Resolution	0.1 µs (< 793 µs), 1 µs (> 793 µs)	
Display	7" colour display 800x480 pixels	
Pulse Voltage	UPV	100 – 450 Vpp
	UPE	–   100 – 400 Vpp
Bandwidth	20 – 500 kHz	
Receiver Gain	1x – 10'000x (0 – 80dB) [11 steps]	
Memory	Internal 8 GB Flash memory	
Regional Settings	Metric and imperial units and multi-language supported	
Battery	Lithium Polymer, 3.6 V, 14.0 Ah	
Battery Lifetime	> 8h (in standard operating mode)	
Operating Temperature	0°C – 30°C (Charging, running instrument)	
	0°C – 40°C (Charging, instrument is off)	
	-10°C – 50°C (Non-charging)	
Humidity	< 95 % RH, non condensing	
IP Classification	IP54	

### Service and Support

Proceq is committed to providing the best support and service available in the industry through the Proceq certified service centers worldwide. This results in a complete support for the Pundit PL-200 and Pundit PL-200PE by means of our global service and support facilities.

### Warranty Information

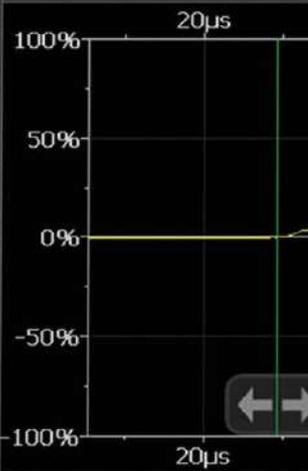
Each instrument is backed by the standard Proceq warranty and extended warranty options.

- » Electronic portion of the instrument: 24 months
- » Mechanical portion of the instrument: 6 months

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Grid 02



Navigation icons: a magnifying glass with a plus sign, a magnifying glass with a minus sign, and a graph icon with a red arrow pointing to a peak.



## Pundit Lab<sup>+</sup> 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<sup>®</sup> 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<sup>®</sup> Lab<sup>+</sup>

**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.

## Simple Entry of System Parameters



Tx frequency, calibration, pulse width, temperature correction



Rx gain, units, receiver gain, transmission mode

## Display of Transmission Time and calculated Parameters

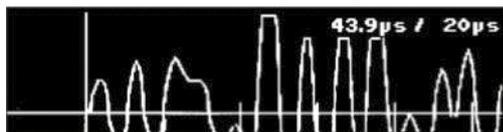


Measuring pulse velocity



Measuring compressive strength (Pundit Lab+)

## Measurement Aids



Waveform display for manual triggering



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.

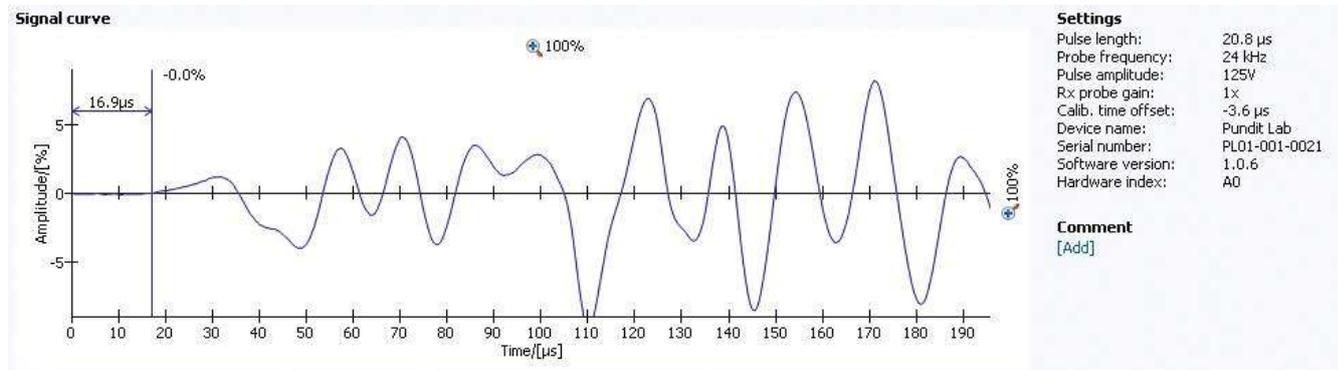
**Transducer Holder;** Particularly useful for compound measurements such as surface velocity or crack depth. Individual transducer holders are detachable for standard measurements.



## 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<sup>+</sup> only) creation of conversion curves for compressive strength (exponential, polynomial).
- (Pundit Lab<sup>+</sup> only) creation of SONREB curves for combined (ultrasonic/rebound value) estimates of compressive strength



## Equipment Features Pundit Lab / Pundit Lab<sup>+</sup>

Common Features	Pundit Lab	Pundit Lab <sup>+</sup>
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
IP Classification	IP42	IP42
New Features	Pundit Lab	Pundit Lab <sup>+</sup>
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

## 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 <sup>+</sup> 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)	
710 10 004	Cable with 2x BNC-plug, L=3.6m (12ft)	
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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 info@proceq.com  
 www.proceq.com



**proceq**

# Silver Schmidt® Live



OS8200

Concrete **strength and uniformity** evaluation using optical rebound hammer technology



## Versatility

Accurately test the widest range of concrete strength classes. Work with the built-in standards-compliant conversions or your own custom material conversions.



## Collaboration

A mobile app that lets you annotate measurements with voice, photos, and comments. Generate reports and share them instantly. Access your data from anywhere, anytime.



## Efficiency

Fully assess an entire test region of concrete in less than 10 minutes—saving you days of laborious effort compared with exclusively using coring.

# Silver Schmidt® OS8200

Software	Original Schmidt® Live app & website interface
Workflow features	Voice read-out of each impact (only on iOS®) Logbook with geolocation, audio, image and text annotations Series statistics Single series reporting: PDF, CSV Test-region reporting (multiple series): PDF, CSV, uniformity report, EN13791 characteristic strength report
Verification features	Options: EN12504-2, Manufacturer's recommendation, JGJ-T23 User reminder when verification check on anvil is required User guidance for verification procedure
Cloud features	Cloud synchronization Cloud-enabled Logbook Cloud-based report generation

iOS is a registered trademark of Cisco in the US and is used by Apple under license.



Model	Type N	Type L
Applications	High-precision compressive strength estimation and strength uniformity assessment	
<b>Measurement ranges</b>		
Ultra-high performance (UHPC)	Up to 120 MPa / 17405 psi	-
Normal and high strength	10 – 100 MPa / 1450 – 14500 psi	
Fresh*	-	5 – 30 Mpa 725 – 4351 psi
Technology	Optical Rebound Velocity Quotient	
Impact angle independent	●	●
Impact energy	2.207 Nm	0.735 Nm
Probe weight	1.08 kg / 2.38 lbs	0.84 kg / 1.85 lbs
Digital display	100 x 100 px, back-lit	
Display and processing unit	iOS® or Android® device (not included)	
Connectivity	Bluetooth® 4.0 EDR Low Energy to iOS® or Android® device	
Accessories	Bluetooth® printer: optional / included in Print model Mushroom plunger (for Type L only)	

\*with mushroom plunger

## Measurements settings

Rebound value calculation	EN12504-2; ASTM C805; JGJ-T23; JSCE; JIS; Mean
Units	N/mm <sup>2</sup> , MPa, psi, kg/cm <sup>2</sup>
Form factor correction	Cube, 2:1 cylinder, 1:1 core, user-definable
Carbonation correction	User-definable
Reference and custom curves	Reference curves for Europe, China and Russia Custom curves (required by major standards) EN13791 characteristic strength determination using rebound value alone

## Parameters

Memory capacity	ca. 20'000 impacts
Impacts per series	Max. 70
Battery	Removable, 1x AAA (alkaline or rechargeable), flight-safe
Battery autonomy	> 20'000 impacts
Operating temperature	0 to 50°C / 32 to 122 °F
Operating humidity	<95% RH, non-condensing
Storage temperature	-10 to 70°C / 14 to 158 °F







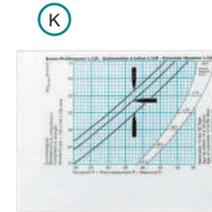
**SWISS MADE**

Original Schmidt  
Live

Silver Schmidt  
Live

	OS8000	OS8000 Print	OS8200	OS8200 Print
A		●		●
B	●			
C			●	
D	●	●		
E			●	●
F	●	●	●	●
G	●	●	●	●
H	●	●	●	●
I	●	●	●	●
J	●	●	●	●
K	●	●		
L	●	●	●	●
M		●	○	●
N		●	○	●
O	○	●	○	●
P	○	●	○	●
Q	○	○	○	○
R			○	○
S	○	○		
T			○	○
U			○	○

● Included  
○ Optional / optional / optionsl / opzionale / tralala





A full charge takes around 7.5 h. Alternatively, you can use non-rechargeable AAA batteries. Warning: do not charge non-rechargeable AAA batteries!  
 Ein kompletter Ladevorgang dauert ca. 7,5 h. Alternativ können Sie nicht wiederaufladbare AAA-Batterien verwenden. Warnung: Versuchen Sie niemals, nicht wiederaufladbare AAA-Batterien aufzuladen!  
 Une charge complète dure environ 7,5 heures. Sinon, vous pouvez utiliser des batteries AAA non rechargeables. Attention: ne chargez pas des piles AAA non rechargeables!

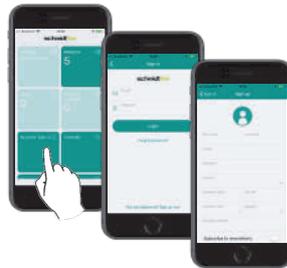
La ricarica completa richiede circa 7,5 ore. In alternativa si possono utilizzare batterie AAA non ricaricabili. Avvertenza: non mettere in carica le batterie AAA non ricaricabili!  
 Uma carga completa dura 7,5 h. Alternativamente, también se pueden usar pilas AAA no recargables. Advertencia: ¡no cargar las pilas AAA no recargables!  
 Uma carga completa leva aproximadamente 7,5 h. Alternativamente, você pode usar também pilhas AAA. Advertência: não carregue pilhas AAA não recarregáveis!  
 Для полной зарядки требуется около 7,5 ч. Можно использовать также стандартные батареи типа AAA. Предупреждение: не заряжайте стандартные батареи типа AAA!  
 フル充電には約7.5時間かかります。または、充電式ではない単四電池を使用することもできます。警告: 充電式ではない単四電池は充電しないでください!  
 完全充滿需要大約7.5小時。此外，您可以使用AAA非充電電池。警告: 切勿給AAA非充電電池充電!  
 완전 충전에는 약 7.5시간이 걸립니다. 또는 충전용이 아닌 AAA 배터리를 사용할 수 있습니다. 경고: 충전용이 아닌 AAA 배터리를 충전하지 마십시오!

1

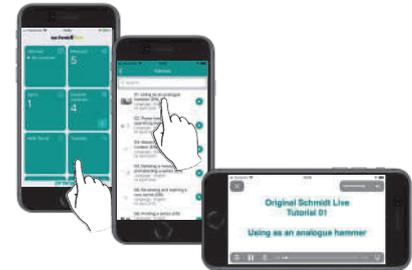
Apple® App Store / Google Play Store > "Original Schmidt Live"



2



3

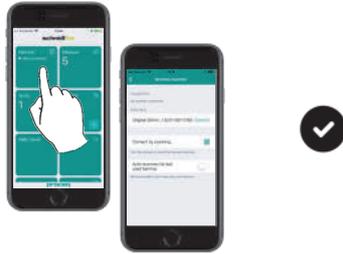


# Live

4



5



---

# Print

4



5



6



7





## Declaration of Conformity

Products: Original Schmidt OS8000 / Silver Schmidt OS8200  
Model: N, L, Print N, Print L  
Proceq Part Numbers: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Manufacturer: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

We confirm that the Original Schmidt OS8000 / Silver Schmidt OS8200 product is in conformity with RoHS, WEEE and the following directives and standards:

Low voltage directive: 2014/35/EU  
RoHS directive: 2011/65/EU  
Safety requirements: EN61010-1:2015/IEC61010-1:2010  
Electromagnetic compatibility: RED 2014/ 53/EU  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Determined by: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
Vibration: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Connection: Bluetooth Low Energy  
Bluetooth module: Contains FCC 10: WAP 2001  
Contains IC ID: 7922A-2001  
RoHS: EN50581:2012

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This Class B digital apparatus complies with Industry Canada RSS standards. To comply with FCC and Industry Canada RF radiation exposure limits for general population, the transmitter with its antenna must be installed such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) and all persons at all times and must not be collocated or operating in conjunction with any other antenna or transmitter.

Schwerzenbach, 20.05.2019



Patrick Waller  
Chief Operating Officer



## Swiss Made Declaration



Products: Original Schmidt OS8000 / Silver Schmidt OS8200  
Model: N, L, Print N, Print L  
Proceq Part Numbers: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Manufacturer: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

We confirm that the Original Schmidt OS8000 / Silver Schmidt OS8200 was developed and manufactured in Switzerland and fulfills the requirements needed for the declaration "Made in Switzerland" or "Swiss Made."

The requirements for industrial products are in detail specified in the National Swiss Trademark Protection Statute (Art.47-50, MSchG) covering goods and services.

Schwerzenbach, 20.05.2019



Patrick Waller  
Chief Operating Officer

## Notice

This document (incl. Quick Start Guide and Product Certificates) constitutes an integral part of Proceq's General Terms and Conditions of Sale and General Terms and Conditions of Rental, together with any other guideline, precautions, policies and conditions which Proceq has made and may make available to you at [www.proceq.com/downloads](http://www.proceq.com/downloads), as amended from time to time (the Documents). Proceq reserves the right to change without notice any information, specifications and recommendations contained in this document and in any of the associated Documents.

You shall observe and be solely responsible for the safe and lawful use of this product, as well as your conduct while using it and any consequences arising thereof. The use and operation of this product is at your own discretion and risk. Proceq hereby disclaims any and all loss, liability or damages resulting from or out of your use of the product. Please ensure you operate and use this product only for purposes that are proper and in accordance with the instructions given herein together with all safety and health precautions, applicable laws, rules, regulations, and as provided for in any of the Documents.

## Konformitätserklärung

Produkte: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modell: N, L, Print N, Print L  
Proceq-Artikelnummern: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Hersteller: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Schweiz

Wir bestätigen, dass das Original Schmidt OS8000 / Silver Schmidt OS8200 RoHS- und WEEE-konform ist sowie folgende Richtlinien und Standards erfüllt:

Niederspannungsrichtlinie: 2014/35/EU  
RoHS-Richtlinie: 2011/65/EU  
Sicherheitsanforderungen: EN61010-1:2015/IEC61010-1:2010  
Elektromagnetische Verträglichkeit: RED 2014/ 53/EU  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Festgelegt durch: EN61326-1:2013/  
IEC61326-1:2012/  
FCC:  
Vibration: CFR47 Part 15  
EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Anschluss:  
Bluetooth-Modul: Bluetooth Low Energy  
Enthält FCC 10: WAP 2001  
Enthält IC ID: 7922A-2001  
RoHS: EN50581:2012

Das Gerät entspricht Teil 15 der FCC-Regeln. Der Betrieb unterliegt den folgenden beiden Bedingungen: (1) Dieses Gerät darf keine schädlichen Störungen verursachen, und (2) dieses Gerät muss empfangene Störungen aufnehmen, auch Störungen, die eventuell einen unerwünschten Betrieb verursachen. Dieses digitale Gerät der Klasse B entspricht den RSS-Normen von Industry Canada. Um die HF-Strahlungsexpositionsgrenzwerte der FCC und von Industry Canada für die allgemeine Bevölkerung zu erfüllen, muss der Transmitter mit seiner Antenne so installiert werden, dass jederzeit ein Mindestabstand von 20 cm zwischen dem Strahler (Antenne) und allen Personen eingehalten wird. Zudem darf er nicht neben anderen Antennen oder Transmittern angebracht oder mit diesen zusammen verwendet werden.

Schwerzenbach, 20.05.2019

*P. Waller*

Patrick Waller  
Chief Operating Officer



## Erklärung über die Herstellung in der Schweiz



Produkte: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modell: N, L, Print N, Print L  
Proceq-Artikelnummern: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Hersteller: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Schweiz

Wir bestätigen, dass das Original Schmidt OS8000 / Silver Schmidt OS8200 Gerät in der Schweiz entwickelt und gefertigt wurde und die zur Führung der Herkunftsangabe «Made in Switzerland» oder «Swiss Made» erforderlichen Voraussetzungen erfüllt.

Die Voraussetzungen für Industrieprodukte sind im Schweizer Bundesgesetz über den Schutz von Marken und Herkunftsangaben (Art. 47-50, MSchG) für Waren und Dienstleistungen ausführlich geregelt.

Schwerzenbach, 20.05.2019

*P. Waller*

Patrick Waller  
Chief Operating Officer

## Hinweis

Dieses Dokument (inkl. Kurzanleitung und Produktzertifikaten) stellt einen wesentlichen Bestandteil der Allgemeinen Verkaufs- und Lieferbedingungen und der Allgemeinen Mietbedingungen von Proceq dar, und zwar zusammen mit sämtlichen anderen Leitfäden, Vorsichtshinweisen, Richtlinien und Bedingungen, die Proceq erstellt hat und Ihnen in ihrer jeweils gültigen Fassung unter [www.proceq.com/downloads](http://www.proceq.com/downloads) zur Verfügung stellen kann. Proceq behält sich das Recht vor, jederzeit und ohne vorherige Ankündigung Änderungen an den in diesem Dokument und sämtlichen zugehörigen Dokumenten enthaltenen Informationen, Spezifikationen und Empfehlungen vorzunehmen.

Sie sind ausschliesslich und allein für den sicheren und rechtmässigen Einsatz des Produktes sowie für Ihr Verhalten während der Nutzung und die daraus entstehenden Folgen verantwortlich. Die Verwendung und der Betrieb dieses Produktes erfolgen nach Ihrem Ermessen und auf Ihr eigenes Risiko. Proceq lehnt hiermit ausdrücklich jegliche Haftung für Verluste oder Schäden ab, die durch Ihre Verwendung des Produktes entstehen. Bitte stellen Sie sicher, dass Sie dieses Produkt nur zu den vorgesehenen Zwecken und gemäss den hier enthaltenen Anweisungen sowie gemäss allen Vorsichtsmassnahmen im Hinblick auf Sicherheit und Gesundheit, einschlägigen Gesetzen, Vorschriften und wie in den Dokumenten vorgesehen betreiben und einsetzen.

## Déclaration de conformité

Produits: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modèle: N, L, Print N, Print L  
Références Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricant: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suisse

Nous confirmons que l'instrument Original Schmidt OS8000 / Silver Schmidt OS8200 est conforme aux dispositions RoHS, WEEE ainsi qu'aux directives et normes suivantes:

Directive Basse Tension: 2014/35/EU  
Directive RoHS: 2011/65/EU  
Règles de sécurité: EN61010-1:2015/IEC61010-1:2010  
Compatibilité électromagnétique: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Déterminé par: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
Vibrations: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Connexion: Bluetooth basse énergie  
Module Bluetooth: Contient FCC 10: WAP 2001  
Contient IC ID: 7922A-2001  
RoHS: EN50581:2012

Cet instrument est conforme à la partie 15 des règles FCC: Son utilisation est soumise aux conditions suivantes: (1) Cet instrument ne produit pas d'interférences néfastes, et (2) cet instrument doit accepter toute interférence venant de l'extérieur, y compris des interférences susceptibles de causer un fonctionnement non souhaité. Cet instrument numérique de classe B est conforme aux normes RSS d'Industry Canada. Afin de satisfaire aux limites d'exposition aux rayonnements électromagnétiques pour le grand public stipulées par la FCC et Industry Canada, l'émetteur et son antenne doivent être installés de sorte qu'une distance minimale de 20 cm soit maintenue en permanence entre l'élément rayonnant (antenne) et tout individu. Ils ne doivent pas être placés au même endroit qu'une autre antenne ou un autre émetteur, ni être utilisés avec une autre antenne ou un autre émetteur.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## Déclaration «Fabriqué en Suisse»



Produits: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modèle: N, L, Print N, Print L  
Références Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricant: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suisse

Nous confirmons que l'instrument Original Schmidt OS8000 / Silver Schmidt OS8200 a été développé et fabriqué en Suisse et qu'il répond aux exigences requises pour la déclaration «Fabriqué en Suisse» ou «Suisse».

Les exigences posées aux produits industriels sont précisées dans la loi suisse sur la protection des marques (Art. 47-50, LPM) couvrant les biens et les services.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## Avis

Ce document (y compris le guide de démarrage rapide et les certificats de produit) fait partie intégrante des conditions générales de vente et de location de Proceq, au même titre que toutes les autres directives, précautions, politiques et conditions que Proceq a établies et publiées sur le site [www.proceq.com/downloads](http://www.proceq.com/downloads), dans leur version modifiée de temps à autre (les documents). Proceq se réserve le droit de modifier sans préavis toute information, spécification et recommandation figurant dans ce document et dans n'importe quel autre document associé.

Vous devez respecter et être seul responsable de l'utilisation sûre et légale de ce produit, ainsi que de votre conduite lors de son utilisation et des conséquences qui en découlent. L'utilisation de cet instrument se fait à votre entière discrétion et à vos propres risques. Par la présente, Proceq exclut toute perte, toute responsabilité ou tout dommage qui résulte de l'utilisation ou non de l'instrument. Veuillez à utiliser cet instrument seulement aux fins prévues et conformément aux instructions figurant dans les présentes et à l'ensemble des précautions de sécurité et de santé, lois, règles et réglementations en vigueur, et tel que prévu dans n'importe lequel des documents.

## Dichiarazione di conformità

Prodotti: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modello: N, L, Print N, Print L  
Codici articolo Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Produttore: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Svizzera

Si attesta che lo strumento Original Schmidt OS8000 / Silver Schmidt OS8200 è conforme alle direttive RoHS, WEEE e alle seguenti direttive e norme:

Direttiva bassa tensione: 2014/35/EU  
Direttiva RoHS: 2011/65/EU  
Requisiti di sicurezza: EN61010-1:2015/IEC61010-1:2010  
Compatibilità elettromagnetica: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Definita da: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
Vibrazioni: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Collegamento: Bluetooth a basso consumo  
Modulo Bluetooth: Contiene FCC 10: WAP 2001  
Contiene IC ID: 7922A-2001  
RoHS: EN50581:2012

Il presente apparecchio è conforme alla parte 15 delle normative FCC. Il suo utilizzo è subordinato alle due seguenti condizioni: (1) l'apparecchio non deve causare interferenze dannose e (2) deve accettare qualsiasi interferenza, comprese quelle che possono determinare un funzionamento indesiderato. Questo apparecchio digitale di Classe B è conforme agli standard RSS di Industry Canada. Per la conformità con i limiti di esposizione alle radiazioni RF di FCC e Industry Canada per la popolazione generale, il trasmettitore dotato della relativa antenna deve essere installato in modo che venga costantemente mantenuta una distanza minima di separazione di 20 cm tra il trasmettitore (antenna) e tutte le persone e non deve essere collocato o utilizzato assieme ad altra antenna o altro trasmettitore.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## Dichiarazione “Swiss Made”



Prodotti: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modello: N, L, Print N, Print L  
Codici articolo Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Produttore: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Svizzera

Con la presente si dichiara che lo strumento Original Schmidt OS8000 / Silver Schmidt OS8200 è stato sviluppato e fabbricato in Svizzera e che soddisfa i requisiti necessari per la dichiarazione “Made in Switzerland” o “Swiss Made.”

I requisiti stabiliti per i prodotti industriali sono specificati in dettaglio nella legge federale sulla protezione dei marchi (LPM, artt. da 47 a 50) per beni e servizi.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## Avviso

Il presente documento (inclusi la Guida breve e i Certificati di prodotto) costituisce parte integrante dei Termini e condizioni generali di vendita e Termini e condizioni generali di noleggio di Proceq, congiuntamente a qualsiasi altro documento – quali linee guida, precauzioni, politiche e condizioni – che Proceq abbia reso o renda disponibile su [www.proceq.com/downloads](http://www.proceq.com/downloads), con le relative modifiche periodiche (i Documenti). Proceq si riserva il diritto di modificare senza preavviso qualsiasi informazione, specifica e raccomandazione contenuta nel presente documento e in uno qualsiasi dei Documenti associati.

L'utente è interamente responsabile per l'uso sicuro e legale di questo prodotto, nonché per la propria condotta durante l'utilizzo e per ogni conseguenza che ne derivi. L'uso e il funzionamento di questo prodotto sono a propria discrezione e rischio. Proceq declina qualsiasi perdita, responsabilità o danno derivante dall'utilizzo del prodotto. Assicurarsi di far funzionare e utilizzare questo prodotto solo per scopi appropriati e in conformità con le istruzioni fornite nel presente documento, seguendo tutte le precauzioni per la sicurezza e la salute, le norme, le regole e i regolamenti applicabili e quanto previsto nei Documenti.

## Declaración de conformidad

Productos: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modelo: N, L, Print N, Print L  
Números de pieza Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricante: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suiza

Confirmamos que el instrumento Original Schmidt OS8000 / Silver Schmidt OS8200 está en conformidad con RoHS, RAEE y las siguientes directivas y normas:

Directiva de baja tensión: 2014/35/EU  
Directiva RoHS: 2011/65/EU  
Requerimientos de seguridad: EN61010-1:2015/IEC61010-1:2010  
Compatibilidad electromagnética: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Determinado por: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
Vibración: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Conexión: Bluetooth de baja energía  
Módulo Bluetooth: Contiene FCC 10: WAP 2001  
Contiene IC ID: 7922A-2001  
RoHS: EN50581:2012

Este dispositivo está en conformidad con parte 15 de la FCC: La operación está sujeta a las siguientes dos condiciones: (1) este dispositivo no deberá causar interferencias perjudiciales, y (2) este dispositivo deberá aceptar cualquier interferencia recibida, incluyendo interferencias que puedan causar un funcionamiento indeseado. Este dispositivo digital de clase B está en conformidad con las normas industriales canadienses RSS. Para cumplir los límites de exposición a la radiación de radiofrecuencia para la población general establecidos por la FCC y las normas canadienses, el transmisor con su antena debe instalarse en tal forma que la distancia de separación mínima de 20 cm entre el elemento radiante (antena) y cualquier persona sea mantenida en todo momento y que el mismo no debe colocarse ni operarse en combinación con alguna otra antena u otro transmisor.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## Declaración de Swiss made



Productos: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modelo: N, L, Print N, Print L  
Números de pieza Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricante: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suiza

Confirmamos que el instrumento Original Schmidt OS8000 / Silver Schmidt OS8200 se ha desarrollado y fabricado en Suiza y satisface la exigencias necesarias para la declaración "Hecho en Suiza" o "Swiss Made."

Los requerimientos de productos industriales están especificados detalladamente en el National Swiss Trademark Protection Statute [estatuto nacional de protección de marcas registradas suizas] (Art.47-50, MSchG) el cual cubre bienes y servicios.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## Aviso

Este documento (incl. Guía de inicio rápido y certificados del producto) forma parte integral de las Condiciones generales de venta y de las Condiciones generales de renta, junto con cualquier otra directiva, precaución, política y condición que Proceq haya puesto o vaya a poner a su disposición en [www.proceq.com/downloads](http://www.proceq.com/downloads), con sus enmiendas ocasionales (los Documentos). Proceq se reserva el derecho de modificaciones sin previo aviso o información de cualquier especificación y recomendación contenida en este documento y en cualquier otro documento asociado.

Usted deberá observar y ser el único responsable del uso seguro y legal de este producto, tanto como su conducta durante su uso y cualquier consecuencia resultante de la misma. El uso y la operación de este producto se realizarán bajo su propia discreción y su propio riesgo. Por la presente, Proceq renuncia a toda responsabilidad por pérdida, obligación o daños que resulten de su uso del producto. Por favor, asegúrese de operar y usar este producto sólo para los objetivos adecuados y en conformidad con las instrucciones descritas aquí, junto con todas las precauciones de seguridad y salud, leyes, todos los reglamentos, normas aplicables, y del modo estipulado en cualquiera de estos Documentos.

## Declaração de Conformidade

Produtos: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modelo: N, L, Print N, Print L  
Números das peças Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricante: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suíça

Declaramos que o instrumento Original Schmidt OS8000 / Silver Schmidt OS8200 está em conformidade com RoHS, WEEE e os seguintes padrões e diretrizes:

Diretriz de baixa voltagem: 2014/35/EU  
Diretiva RoHS: 2011/65/EU  
Requisitos de segurança: EN61010-1:2015/IEC61010-1:2010  
Compatibilidade eletromagnética: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
Determinado por: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
Vibração: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
Conexão: Bluetooth de baixa energia  
Módulo Bluetooth: Contém FCC 10: WAP 2001  
Contém IC ID: 7922A-2001  
RoHS: EN50581:2012

Esse instrumento atende às exigências da parte 15 do FCC: A operação é sujeita às duas condições seguintes: (1) Este instrumento não deve causar interferência prejudicial e (2) este instrumento tem que aceitar qualquer interferência recebida, incluindo interferências que possam causar operação de forma não desejada. Esse aparelho digital da classe B está de acordo com padrões RSS da indústria canadense. Para estar em conformidade com limites de exposição à radiação FCC e RF da indústria canadense para a população geral, o transmissor com a sua antena deve ser instalado de modo que haja uma distância mínima de 20 cm entre o radiador (antena) e todas as pessoas, sempre, e não deve ser implantado ou operar junto com qualquer outra antena ou transmissor.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## Declaração de Produto Suíço

Produtos: Original Schmidt OS8000 / Silver Schmidt OS8200  
Modelo: N, L, Print N, Print L  
Números das peças Proceq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Fabricante: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Suíça

Confirmamos que o instrumento Original Schmidt OS8000 / Silver Schmidt OS8200 foi desenvolvido e produzido na Suíça e cumpre os requisitos necessários para a declaração "Produzido na Suíça" ou "Produto Suíço."

Os requisitos para produtos industriais encontram-se especificados em detalhes no Estatuto Nacional de Proteção à Marca Registrada Suíça (art.47-50, MSchG) que diz respeito a produtos e serviços.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## Aviso

Este documento (incl. o Guia rápido e os Certificados de produto) é parte integrante dos Termos e condições gerais de venda e fornecimento da Proceq e dos Termos e condições gerais de locação, junto com qualquer outra diretriz, precauções, políticas e condições que a Proceq tenha criado e possa disponibilizar em [www.proceq.com/downloads](http://www.proceq.com/downloads), conforme alterado de tempos em tempos (os documentos). A Proceq se reserva o direito de alterar quaisquer informações, especificações e recomendações contidas neste documento e em qualquer um dos documentos associados sem aviso prévio.

Você deve observar e será o único responsável pelo uso seguro e legal de seu próprio equipamento, enquanto estiver usando o equipamento e por todas as respectivas consequências que surgirem. O uso e a operação deste produto são de sua única e exclusiva responsabilidade. Através desta a Proceq isenta-se de todo e qualquer prejuízo, responsabilidade e danos decorrentes do seu uso do produto. Assegure-se que opere e use este produto apenas aos fins apropriados e de acordo com as instruções aqui contidas, junto com todas as precauções de segurança e de saúde, leis, regras, regulamentos aplicáveis e tal como previsto nos documentos.

## Декларация соответствия

изделия: Original Schmidt OS8000 / Silver Schmidt OS8200  
Модель: N, L, Print N, Print L  
Номенклатура компании Proseq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Производитель: Proseq SA, Ringstrasse 2  
8603 Schwerzenbach, Шверценбах), Швейцария

Мы подтверждаем, что прибор Original Schmidt OS8000 / Silver Schmidt OS8200 соответствует стандартам RoHS, WEEE и следующим стандартам и директивам: Директива ЕС по низковольтному

электрооборудованию: 2014/35/EU  
Директива RoHS: 2011/65/EU  
Нормы техники безопасности: EN61010-1:2015/IEC61010-1:2010  
Электромагнитная совместимость: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011

Установлено в соответствии с:

FCC: EN61326-1:2013/  
IEC61326-1:2012/  
CFR47 Part 15  
Вибрация: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009

Подключение: Беспроводная технология Bluetooth с  
Модуль Bluetooth: низким энергопотреблением  
Содержит FCC 10: WAP 2001  
Содержит IC ID: 7922A-2001  
RoHS: EN50581:2012

Устройство отвечает требованиям части 15 свода правил FCC (федеральная комиссия по связи США): На использование прибора распространяются два следующих положения: (1) Это устройство не может производить опасные помехи, а также (2) данное устройство должно поглощать любые получаемые помехи, в том числе помехи, способные вызвать неправильное функционирование. Цифровое устройство класса В соответствует требованиям промышленных RSS-стандартов Канады. Для соответствия ограничениям FCC и министерства промышленности Канады на радиационное облучение населения передатчик с антенной должны быть установлены таким образом, чтобы сохранялось расстояние в 20 см между излучателем (антенной) и людьми в любое время. Также запрещается совместное расположение или работа в связке с другой антенной или другим передатчиком.

Schwerzenbach, 20.05.2019



Patrick Waller  
Chief Operating Officer



## Декларация об изготовлении в Швейцарии (Swiss Made)



изделия: Original Schmidt OS8000 / Silver Schmidt OS8200  
Модель: N, L, Print N, Print L  
Номенклатура компании Proseq: 340 10 xxx, 340 20 xxx, 341 5x xxx  
Производитель: Proseq SA, Ringstrasse 2  
8603 Schwerzenbach, Шверценбах), Швейцария

Мы подтверждаем, что прибор Original Schmidt OS8000 / Silver Schmidt OS8200 разработан и изготовлен в Швейцарии и соответствует требованиям, предъявляемым при выдаче декларации «Made in Switzerland» или «Swiss Made».

Требования к промышленным изделиям подробно описаны в «Национальном положении Швейцарии об охране товарных знаков» (статья 47–50, MSchG), которое распространяется на товары и обслуживание.

Schwerzenbach, 20.05.2019



Patrick Waller  
Chief Operating Officer

## ПРИМЕЧАНИЕ

Настоящий документ (включая краткое руководство пользователя и сертификаты продукции) является неотъемлемой частью общих условий и положений по продажам Proseq и общих условий и положений по аренде, вместе с любыми другими руководствами, мерами предосторожности, правилами и условиями, доступность которых Proseq обеспечила или может обеспечить на сайте [www.proseq.com/downloads](http://www.proseq.com/downloads) в соответствии с периодически вносимыми поправками (документация). Компания Proseq сохраняет за собой право без предварительного уведомления изменять информацию, характеристики и рекомендации, содержащиеся в настоящем документе и в любом из соответствующих документов.

Вы несете полную ответственность за безопасное и законное использование данного продукта, должны соблюдать правила его применения, а также ответственны за любые последствия, возникающие в связи с этим. Использование и эксплуатация настоящего продукта выполняется на ваше собственное усмотрение и риск. Компания Proseq настоящим снимает с себя ответственность за любые убытки или ущерб в результате использования вами нашего продукта. Использовать и эксплуатировать настоящий продукт только в надлежащих целях, а также в соответствии с приведенными здесь инструкциями вместе со всеми мерами по обеспечению безопасности и защите здоровья, применимыми законами, правилами, нормами и как предусмотрено в любом из настоящих документов.

## 適合宣言

製品: Original Schmidt OS8000 / Silver Schmidt OS8200  
モデル: N, L, Print N, Print L  
Proceq部品番号: 340 10 xxx, 340 20 xxx, 341 5x xxx  
製造者: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

Original Schmidt OS8000 / Silver Schmidt OS8200 測定器は、RoHS、WEEEならびに、以下の指令および標準に準拠しています。

低電圧指令: 2014/35/EU  
RoHS指令: 2011/65/EU  
安全要件: EN61010-1:2015/IEC61010-1:2010  
電磁環境適合性: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
区分: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
振動: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
接続: Bluetooth低エネルギー  
Bluetoothモジュール: 記載 FCC 10: WAP 2001  
記載 IC ID: 7922A-2001  
RoHS: EN50581:2012

このデバイスは、FCC規則のパート15に準拠しています。動作は以下の2つの条件に従います: (1) このデバイスは有害な干渉を引き起こしてはなりません、かつ(2) このデバイスは、望ましくない動作を引き起こす可能性のある干渉を含め、受信したあらゆる干渉に対応しなければなりません。このクラスBデジタル装置は、Industry Canada RSS規格に準拠しています。FCCおよびIndustry Canadaの定める公衆向けのRF放射被爆制限に準拠するため、送信機とそのアンテナは、放射器(アンテナ)から20 cm以内に人が近づくことがないように設置しなければならず、他のアンテナまたは送信機とともに配置または作動させてはなりません。

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## Swiss Made宣言



製品: Original Schmidt OS8000 / Silver Schmidt OS8200  
モデル: N, L, Print N, Print L  
Proceq部品番号: 340 10 xxx, 340 20 xxx, 341 5x xxx  
製造者: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

Original Schmidt OS8000 / Silver Schmidt OS8200 測定器は、スイス国内で開発および製造され、「Made in Switzerland」または「Swiss Made」を宣言するのに必要な要件を満たしています。

工業製品についての要件は、物品およびサービスを対象とする、スイス商標法(MSchG、第47~50条)で詳しく規定されています。

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## お知らせ

本書(クイックスタートガイドおよび製品保証書を含む)は、Proceqの販売一般条件およびレンタル一般条件ならびに、Proceqが制定したその他のガイドライン、注意事項、ポリシーおよび条件(以下、総称して「関連文書」)に不可欠の要素を構成しています。この文書は[www.proceq.com/downloads](http://www.proceq.com/downloads)から入手可能であり、随時改訂される場合があります。Proceqでは、本書および関連文書に記載の情報、仕様および推奨事項を予告なしに変更する権利を留保します。

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## 符合性声明

产品： Original Schmidt OS8000 / Silver Schmidt OS8200  
型号： N, L, Print N, Print L  
Proceq 部件号： 340 10 xxx, 340 20 xxx, 341 5x xxx  
制造商： Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

我们确认 Original Schmidt OS8000 / Silver Schmidt OS8200 仪器符合 RoHS、WEEE 及以下指令和标准：

低电压指令： 2014/35/EU  
RoHS 指令： 2011/65/EU  
安全要求： EN61010-1:2015/IEC61010-1:2010  
电磁兼容性： RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
测定标准： EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
振动： EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
连接： 低功耗蓝牙  
蓝牙模块： 包含 FCC 10: WAP 2001  
包含 IC ID: 7922A-2001  
RoHS: EN50581:2012

本设备符合 FCC 第 15 部分的规定。操作应符合以下两个条件：(1) 本设备不会产生有害干扰，并且 (2) 本设备必须接受任何干扰，包括可能导致设备意外操作的干扰。此 B 类数字器件符合加拿大工业部 RSS 标准。为符合 FCC 和加拿大工业部适用于一般人群的 RF 辐射暴露极限，发射器及其天线必须始终安装在辐射体（天线）和所有人员之间维持 20 cm 最小分隔距离的地方，且不得与任何其他天线或发射器混搭或结合使用。

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## 瑞士制造声明



产品： Original Schmidt OS8000 / Silver Schmidt OS8200  
型号： N, L, Print N, Print L  
Proceq 部件号： 340 10 xxx, 340 20 xxx, 341 5x xxx  
制造商： Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

我们确认 Original Schmidt OS8000 / Silver Schmidt OS8200 仪器在瑞士开发和制造，符合“Made in Switzerland”或“Swiss Made”声明中所需的要求。

工业产品的需求在《瑞士国家商标保护法》(Art.47-50, MSchG) (包括产品与服务) 中进行了详细的定义。

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## 注意事项

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## 준수 선언문

제품: Original Schmidt OS8000 / Silver Schmidt OS8200  
모델: N, L, Print N, Print L  
Proceq 부품 번호: 340 10 xxx, 340 20 xxx, 341 5x xxx  
제조업체: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

Original Schmidt OS8000 / Silver Schmidt OS8200 장비가 RoHS, WEEE, 그리고 다음의 지침 및 표준을 준수하고 있음을 확인합니다.

저전압 지침: 2014/35/EU  
RoHS 지침: 2011/65/EU  
안전 요건: EN61010-1:2015/IEC61010-1:2010  
전자기파 적합성: RED 2014/ 53/EU/  
EN ETSI 300 328 V2.1.1  
EN ETSI 301 489-1 V2.2.0  
EN ETSI 301 489-17 V3.2.0  
IEC 62479:2010/EN 62479:2011  
승인자: EN61326-1:2013/  
IEC61326-1:2012/  
FCC: CFR47 Part 15  
진동: EN 60068-2-6:2008/  
IEC 60068-2-6:2007/  
EN 60068-2-64:2009/  
IEC 60068-2-64:2009  
연결: Bluetooth Low Energy  
Bluetooth 모듈: FCC ID 포함: WAP 2001  
IC ID 포함: 7922A-2001  
RoHS: EN50581:2012

본 장치는 FCC의 Part 15를 준수합니다. 작동은 다음 2가지 조건을 따릅니다. (1) 본 장치는 유해한 간섭을 유발하지 않으며, (2) 본 장치는 원하지 않는 작동을 유발할 수 있는 간섭을 포함한 어떠한 간섭에도 견딜 수 있어야 합니다. Class B 디지털 장비는 Industry Canada RSS 표준을 준수합니다. 일반인에 대한 FCC 및 Industry Canada RF 방사 노출 기준을 준수하기 위해, 안테나가 있는 트랜스미터는 방사기(안테나)와 모든 사람 사이에 항상 최소 20cm의 간격을 유지하도록 설치되어야 하며 병치되거나 다른 안테나 또는 트랜스미터와 함께 작동되어서는 안 됩니다.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer



## 스위스 제조 선언문

제품: Original Schmidt OS8000 / Silver Schmidt OS8200  
모델: N, L, Print N, Print L  
Proceq 부품 번호: 340 10 xxx, 340 20 xxx, 341 5x xxx  
제조업체: Proceq SA, Ringstrasse 2  
8603 Schwerzenbach, Switzerland

Original Schmidt OS8000 / Silver Schmidt OS8200 장비는 스위스에서 개발 및 제조되었으며 "스위스에서 제조" 또는 "스위스 제품"이라는 선언문에 필요한 요건을 준수함을 입증합니다.

산업 제품에 대한 요구 사항은 상품 및 서비스에 대한 스위스 상표 보호 법령 (Art.47-50, MSchG)에 자세히 명시되어 있습니다.

Schwerzenbach, 20.05.2019

Patrick Waller  
Chief Operating Officer

## 통지

이 문서(빠른 시작 안내서 및 제품 인증서 포함)는 Proceq가 만들어서 필요에 따라 수시로 개정해서 [www.proceq.com/downloads](http://www.proceq.com/downloads)를 통해 제공할 수 있는 기타 지침, 유의사항, 방침 및 조건 등과 함께 Proceq의 판매에 관한 일반 조항 및 조건과 일반 대여 약관의 필수적인 부분을 구성합니다(문서). Proceq는 이 문서 및 관련 문서에 포함된 정보, 사양 및 권장 사항을 통지 없이 변경할 권리를 보유합니다.

귀하는 본 제품의 안전하고 합법적인 사용, 그리고 본 제품을 사용하는 동안 자신의 행동과 그에 따른 결과를 전적으로 책임져야 합니다. 이 제품의 사용 및 작동은 귀하의 재량과 위험 부담에 따라 결정됩니다. Proceq는 제품 사용으로 인해 발생하는 모든 손실, 책임 또는 손해를 거부합니다. 본 제품을 적절한 목적에 한해 본 설명서에 제공된 지침 뿐만 아니라 모든 안전 및 건강 유의사항, 해당 법규, 규칙, 규정, 그리고 문서에 제시된 내용에 따라 작동하고 사용해야 합니다.





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# proceq

# schmidt

CONCRETE TEST HAMMERS



# CONCRETE TEST HAMMERS

**The concrete test hammers are the most widely used portable NDT measuring instruments for a rapid assessment of the condition of a concrete structure. Proceq's Schmidt Hammer portfolio is the most comprehensive available.**

The concrete test hammer was developed by Ernst O. Schmidt and introduced by Proceq at the beginning of the 1950's. Since then, Proceq has continuously developed its Schmidt Family to cover the entire range of compressive strength classes.

## Rebound Hammer Standards

The SilverSchmidt is fully compliant with ASTM C805, EN 12504-2 and EN 13791. The Chinese standard been applied in SilverSchmidt for the procedure to determine the rebound number.

The Original Schmidt is fully compliant with all major standards.

Each rebound hammer is built for a different purpose in order to meet the specific needs of the customer. The following table gives an overview of the specifications and applications for each instrument.

Concrete Compressive Strength Range						
	1 - 5 MPa 145 - 725 psi	5 - 10 MPa 725 - 1,450 psi	10 - 30 MPa 1,450 - 4,351 psi	30 - 70 MPa 4,351 - 10,153 psi	70 - 100 MPa 10,153 - 14,504 psi	> 100 MPa > 14,504 psi
	Fresh Concrete Very Low Strength Concrete		Normal Concrete		High Strength Concrete	Ultra High Performance Concrete
<b>SilverSchmidt</b> 			SilverSchmidt ST/PC Type N			Only with user defined custom curves
			SilverSchmidt ST/PC Type L			
			SilverSchmidt PC Type L with Mushroom Plunger			
<b>Original Schmidt</b> 			Original Schmidt Type N/ND/NR			
			Original Schmidt Type L/LD/LR			
<b>Schmidt OS-120</b> 	Schmidt OS-120PT	Only with user defined custom curves				

<b>Type N</b>	Standard impact energy. Minimum thickness of test object: 100 mm (3.9") and should be firmly fixed in the structure.
<b>Type L</b>	Low impact energy. Suitable for brittle objects or structures less than 100 mm (3.9") thick.

**ST Model:** Standard model. Hammerlink software provided for performing firmware upgrades and selecting statistics presets only. Useful memory limited to the last 20 series.

**PC Model:** Full Hammerlink software functionality. Extended memory usage. Download to PC. User defined custom curves.

# CONCRETE TEST HAMMERS

## SilverSchmidt



**ST/PC Type N/L:** The world's most advanced rebound hammer, with unmatched dispersion characteristics, durability and measuring range.

Independent validation testing by BAM Germany has shown that the SilverSchmidt's **patented measuring** principle has less dispersion than the classical hammers over the entire range.

Its **inherent impact angle** independence removes one possible source of user error completely. Automatic evaluation according to pre-defined statistical criteria and software analysis tools, greatly enhance the uniformity assessment application.

All major standards recommend to create mixtures specific curves. Such **user defined correlation curves** can be downloaded via the powerful Hammerlink software (PC version only) onto the hammer. This, together with on board correction for form factor and carbonation allows the best possible assessment of compressive strength.

In combination with the SilverSchmidt PC Type L hammer, the **mushroom plunger** extends the lower measuring range down to approximately 5 MPa (725 psi). This, coupled with the SilverSchmidt's inherent angle independency makes it the perfect tool for applications such as determining when to remove formwork in tunnel linings.



## Original Schmidt / Digi-Schmidt

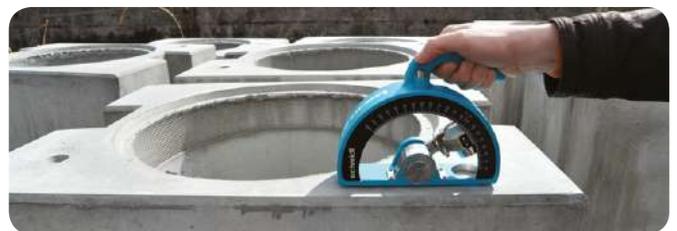


**Type N/L:** The benchmark against which all rebound hammers are compared and the basis of every international rebound hammer standard. Available with different impact energies allowing customers to test a wide variety of materials and types of structure.

**Type NR/LR:** Ever popular version with impact values recorded as a bar chart on registration paper for ease of control. Greatly simplifies the calculation of the rebound value and in checking the uniformity of the object under test. One roll of paper can record up to 4'000 impacts.

**Type ND/LD (Digi-Schmidt):** The world's first digital rebound hammer with data storage, impact angle correction and direct display of compressive strength. The Digi-Schmidt allows correction for form factor and carbonation. It comes with a number of pre-programmed correlation curves, allowing the user to select the most suitable for the mixture under test. All data and parameters may be transferred to a PC for further evaluation with the ProVista software.

## Schmidt OS-120



**Type PT:** Equipped with a larger plunger surface, it is especially designed to test on softer material such as light weight concrete, gypsum boards and on fresh concrete. It is often used to determine the right time to remove formwork.

**Type PM:** Designed to test the mortar joints in brickwork. It has a specially developed plunger whose shape ensures the impacts are applied to the surface of the joint. Based on the rebound values the mortar quality can be classified.

# CONCRETE TEST HAMMERS

## Applications

The Schmidt concrete test hammers can be applied on all concrete structures such as **bridges, buildings, retaining walls, barrages** and many more. But they are also the perfect instruments to test in **tunnels** (e.g. the formwork stripping strength which is the concrete compressive strength  $f_c$  to be achieved before removal of the formwork).

## Spotlight: Tunnel Testing (1/2)

	Test Surfaces and Compressive Strength $f_c$ Range		
	1	2	3
	On all vertical and horizontal surfaces (including overhead)	On arched tunnel linings	On vertical front face and on vertical side of arched Tunnel linings
<b>Tunnel Types</b>	<b>BDB*, CC*</b>	<b>BDB*</b>	<b>BDB*</b>
<b>Original Schmidt Digi-Schmidt</b>	> 10 MPa (>1'450 psi)	N/A	N/A
<b>SilverSchmidt</b>	> 10 MPa (>1'450 psi)	> 10 MPa (>1'450 psi)	N/A
<b>SilverSchmidt with Mushroom plunger</b>	5 to 10 MPa (725 to 1'450 psi)	5 to 10 MPa (725 to 1'450 psi)	N/A
<b>Schmidt OS-120PT Pendulum Hammer</b>	1 to 5 MPa (145 to 725 psi) <i>On intermediate walls, if designer approved it.</i>	N/A	1 to 10 MPa (145 to 1'450 psi)
<b>Information about the Austrian Guideline "Innenschalenbeton" (Inner Concrete Linings of Tunnels)</b>	Article 9.4.4 mentions the P-Type Pendulum Hammer to test on top of intermediate roofs. But as this particular Pendulum Hammer type is not produced anymore, we recommend using the Original-, Digi- or SilverSchmidt instead.	Article 3.5.3.1 mentions the Schmidt OS-120PT Pendulum Hammer and the SilverSchmidt to test the formwork stripping strength. The article also states that tests must be conducted on the top of the front face and on the vertical side surfaces which is only applicable for the PT Pendulum Hammer while the SilverSchmidt can be used over the entire arch without the need to correct the impact direction.  Article 3.1.2 mentions for $f_c = 2$ to 3 MPa (290 to 435 psi).	

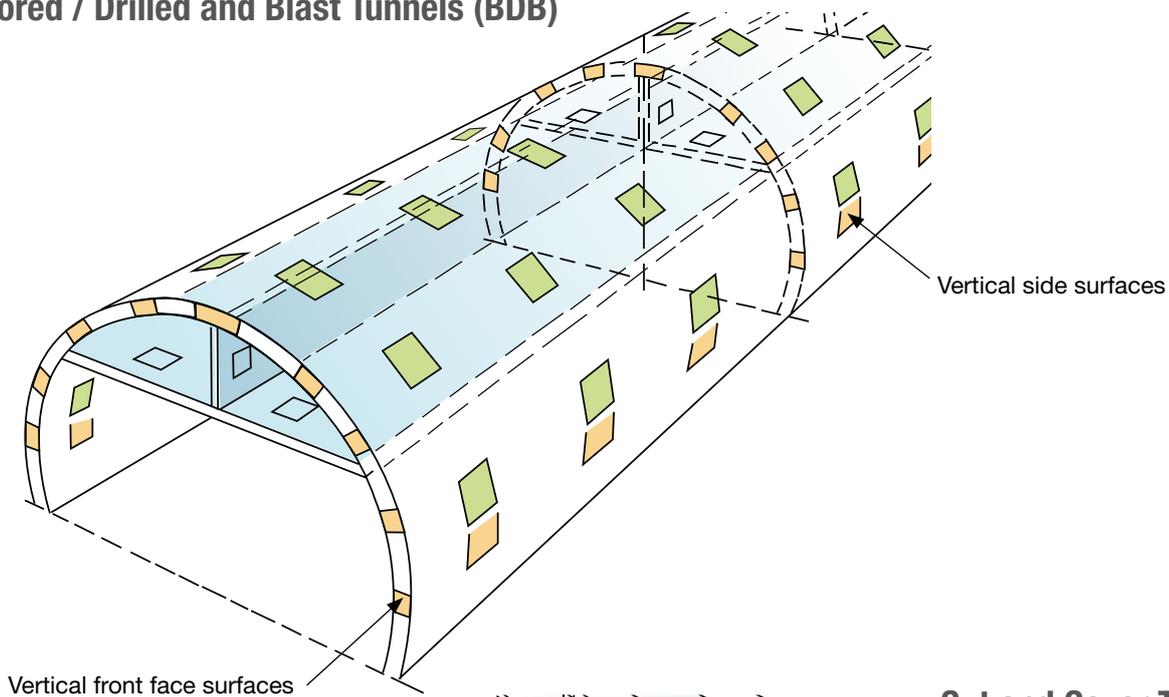
\*BDB Tunnels: Bored / Drilled and Blast Tunnels (Arch lining)

\*CC Tunnels: Cut and Cover Tunnels (Rectangular Cross Section)

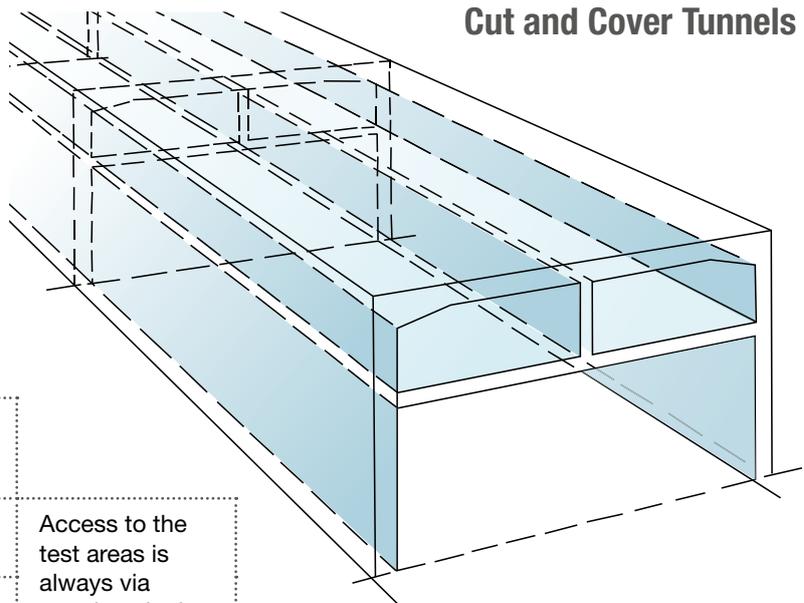


## Spotlight: Tunnel Testing (2/2)

### Bored / Drilled and Blast Tunnels (BDB)



### Cut and Cover Tunnels (CC)



1	<b>On all vertical and horizontal surfaces (including overhead)</b>	Access to the test areas is always via openings in the formwork
2	<b>On arched tunnel linings</b>	
3	<b>On vertical front face and on vertical side of arched tunnel linings</b>	

# CONCRETE TEST HAMMERS

## Ordering Information

### SilverSchmidt Units

PART NO.	DESCRIPTION
341 30 000	SilverSchmidt ST Type N
341 40 000	SilverSchmidt ST Type L
341 31 000	SilverSchmidt PC Type N
341 41 000	SilverSchmidt PC Type L

### Original Schmidt / Digi-Schmidt Units

PART NO.	DESCRIPTION
310 01 001	Original Schmidt Type N
310 01 002	Original Schmidt Type N (PSI)
310 02 000	Original Schmidt Type NR
310 03 002	Original Schmidt Type L
310 04 000	Original Schmidt Type LR
340 00 202	Digi-Schmidt ND
340 00 211	Digi-Schmidt LD

### Schmidt OS-120 Units

PART NO.	DESCRIPTION
310 06 001	Schmidt OS-120PT
310 06 002	Schmidt OS-120PM

### Accessories

PART NO.	DESCRIPTION
341 90 005	Mushroom plunger*
341 10 400	SilverSchmidt anvil
342 10 400	Low range anvil
310 09 040	Testing anvil Euro „N/NR/ND/L/LR/LD“
310 10 000	Testing anvil „P/PT/PM“
341 89 001	SilverSchmidt Anvil Premium Calibration Certificate
310 89 002	Euro Anvil Premium Calibration Certificate
341 89 000	SilverSchmidt Premium Calibration Certificate
310 89 000	Original Schmidt Premium Calibration Certificate
310 99 072	Registration paper (5 rolls/pack), item 31 (NR/LR)

\*only with SilverSchmidt PC Type L

## Service and Warranty Information

Proceq is committed to providing complete support for its Concrete Test Hammers by means of our global service and support facilities. Furthermore, each instrument is backed by the standard Proceq warranty and extended warranty options.

### Standard warranty

- Electronic portion of the instrument: 24 months
- Mechanical portion of the instrument: 6 months

Subject to change without notice. All information contained in this documentation is presented in good faith and believed to be correct. Proceq SA makes no warranties and excludes all liability as to the completeness and/or accuracy of the information. For the use and application of any product manufactured and/or sold by Proceq SA explicit reference is made to the particular applicable operating instructions.

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**proceq**



Swiss Precision since 1954

## profometer®

# The all-in-one solution for rebar assessment and corrosion analysis



New Feature  
2-Layer Neighboring Rebar  
Correction Artificial Intelligence

- ASTM
- DIN
- BS
- SN
- DGZFP
- SIA
- UNI
- JGJ/T
- JSCE



Interactive

### Full flexibility

- ✓ Upgrade anytime between cover meter and corrosion analysis instruments
- ✓ Easily switch the probes of the combined instrument
- ✓ New technologies will be added to further increase application range

### High productivity

- ✓ Easy and immediate data interpretation with 2D grid and statistical views
- ✓ Dual-core processor for fast data acquisition
- ✓ Dedicated software for efficient custom reporting

### User friendliness

- ✓ Profometer touchscreen with illustrative display and assisted workflow
- ✓ On-site post processing of the measured data
- ✓ Rugged housing for harsh environments



**Profometer Corrosion interface box**  
Ready to connect half-cell electrodes to your Profometer unit

# profometer®

## Speed-up your measuring and reporting!

### Profometer 6 Cover Meters

- ✓ Advanced cover meters and rebar locators based on the eddy current pulse induction principle
- ✓ Assisted scan of any surface regardless of its size and geometry
- ✓ Universal probe and detachable ruggedized cart with wireless path measuring system
- ✓ Complies with international standards BS, DIN, DGZfP, SN, SS, DBV



### Profometer Corrosion

- ✓ Most versatile half-cell potential solution
- ✓ Proceq's unique wheel electrodes allow the fastest and most efficient on site testing
- ✓ Compatible with existing Canin and most third party electrodes
- ✓ Complies with international standards ASTM, RILEM, DGZfP, SIA, UNI, JGJ/T, JSCE



[Find out more](#)

[Find out more](#)

## Proceq – History of Innovation since 1954

Proceq SA of Switzerland, founded in 1954, is a leading manufacturer of the highest quality portable instruments for non-destructive testing of materials. The popular Original Schmidt concrete test hammer, the patented SilverSchmidt (Q-value) and the Carboteq are just an excerpt of Proceq's proud inventions.

## Revolutionary Profometer Touchscreen

As direct successors to the Profometer 5+ and Canin+ models, the **Profometer 6 instruments** continue the successful tradition that began 40 years ago representing the sixth Profometer generation.

In its current version the Profometer brand extends its features to cover additional methodologies related to the testing of reinforcement steel, incorporating both rebar assessment and corrosion analysis functionalities, thus replacing the world renowned Canin instrument for corrosion.

- ✓ Housing specially designed to be used on-site in harsh environments, including carrying strap, integrated stand and sunshield cover
- ✓ High resolution colour touchscreen allowing best possible measuring and analysis of the data for an entire working day (battery lifetime >8h)
- ✓ Dual core processor supporting diverse communication and peripheral interfaces
- ✓ Future proof investment through direct upgrade possibilities to upcoming Profometer products

	Profometer 6 Cover Meters			Profometer Corrosion
	Profometer 600	Profometer 630 AI	Profometer 650 AI	
				
	For safe drilling, coring and cutting, conformity check of concrete cover, fire resistance assessment and rebar assessment on unknown structures			For corrosion analysis
Rebar Location				
Cover Measurement				①
Diameter Estimation				
1-Layer NRC				
2-Layer AI				
Cover Calibration				
Single-Line Scan	③			① + ③
Multi-Line Scan				
Area Scan				
Cross-Line Scan	③	③		① + ③
Corrosion Potential	②	②	②	

### Functionality

- ① ② Upgrade kits available (attachable hardware)
- ③ Software upgrades available (activation key)

 See how easy you can upgrade your instrument

# A new Industry Benchmark in Cover Measurement Accuracy

## Artificial Intelligence (AI) Cover Estimation

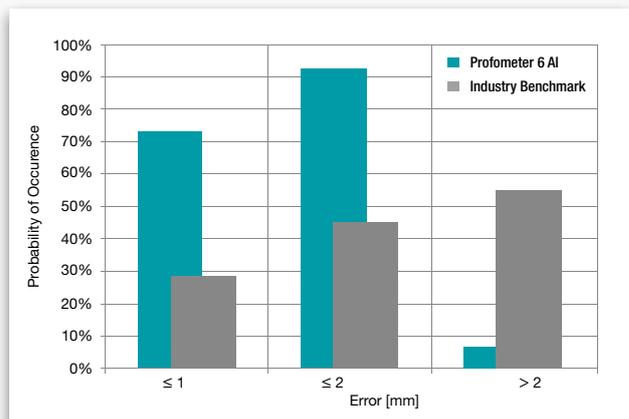


The Profometer 630/650 AI models set a new benchmark in cover reading accuracy. The new artificial intelligence cover estimation feature is based on a self-learning algorithm, with the ability to estimate cover for two layer rebar configurations. The Profometer AI models yield the most accurate cover readings for standard orthogonal two layer rebar configurations with a over 90% probability that first layer cover measurements are within a 2 mm accuracy.

## Cover Calibration

This feature allows the new Profometer AI models to be calibrated on-site. Simply measure the actual cover to an exposed rebar and enter this value into the Profometer AI. This data will then be used to optimize the cover measurement over the whole measurement area. Only one such reference cover value needs to be entered and this highly flexible feature is independent of the rebar geometry and cover depth.

- ✓ Both features are included in the Profometer 630/650 AI models
- ✓ Existing Profometer 630/650 users can simply purchase an upgrade kit to enable these features:



392 00 201



### Upgrade kit from Profometer 630 to 630 AI

consisting of software upgrade (activation key) and ruggedized cart for Profometer 6 universal probe

392 00 202



### Upgrade kit from Profometer 650 to 650 AI

consisting of software upgrade (activation key) and ruggedized cart for Profometer 6 universal probe

New Ruggedized  
Scan Cart

Broad wheels with soft rubber for high stability and precise positioning even on irregular surfaces

Ruggedized housing structure for maximum durability in harsh testing environments

Large diameter wheels prevent locking caused by the ingress of dirt and debris

Integrated spot probe for measurements in corners and LED indicating proximity and location of rebars

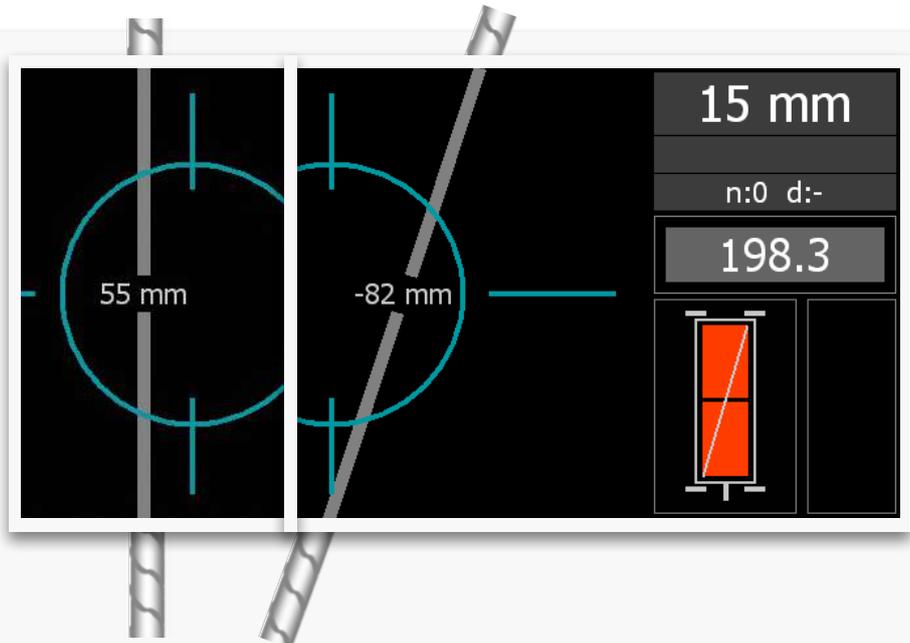
### Profometer 600 Overview

Profometer 600 is the ideal instrument for contractors who need to avoid damages to the reinforcement steel when drilling, coring or cutting. It additionally covers the needs of inspection engineers to locate rebars and to assess concrete cover values and rebar sizes for spot checks.

#### Locate Mode

With the Locate Mode you can precisely detect the rebar location and direction as well as measure the cover and the rebar diameter.

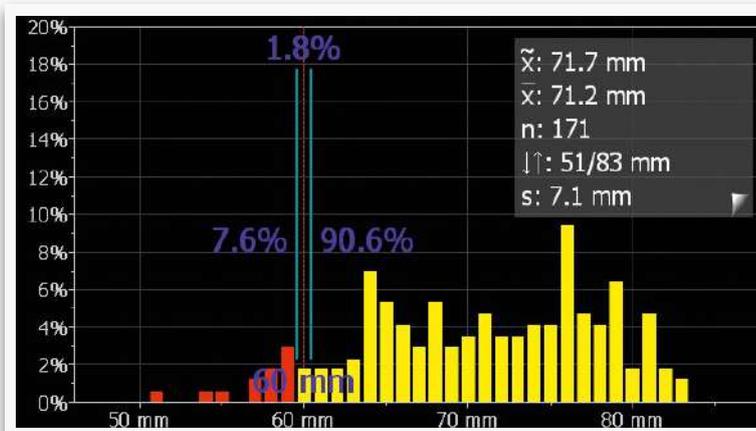
- ✓ Visual assistance for speed and signal strength control
- ✓ Settings directly accessible on the measurement screen
- ✓ Spot Probe specially for areas with congested rebar arrangements
- ✓ Automatically detects inclined rebars



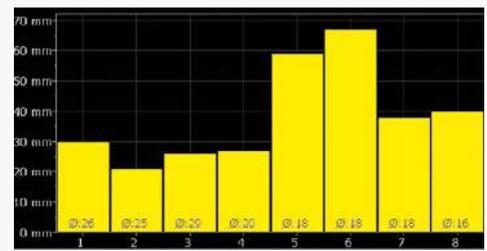
#### Statistics & Snapshot Views

The statistics and snapshot views allow comprehensive review of the measured data directly on the screen.

The statistics view presents a graphical overview of the distribution of cover measurements. The snapshot view shows cover for each rebar with the diameter displayed as a number.



#### Snapshot view



- ✓ Graphical display of measured values and minimum cover set
- ✓ Easy inspection of the measured values directly on the screen
- ✓ Change settings before and after storage
- ✓ Reopen stored files to continue measurements
- ✓ Export the data to a PC via the Profometer-Link software

# Profometer® 630 AI Advanced Scan Cover Meter

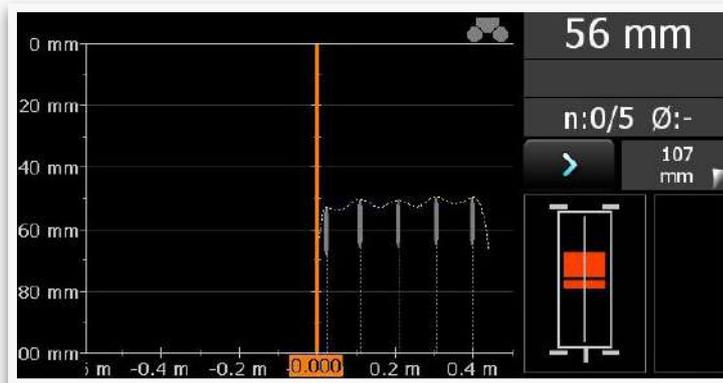
## Profometer 630 AI Overview

The sophisticated Profometer 630 AI further enhances the application range of the Profometer 600 with the Single-Line, Multi-Line and Area Scan Modes and an extensive choice of statistical views, increasing productivity for civil engineers and inspection companies in charge of assessing the conformity of concrete cover of a new structure (quality check and fire resistance assessment) or dealing with corrosion analysis on large elements.

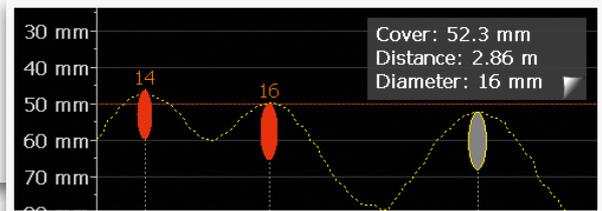
### Single-Line Scan

Linear scan of the cover across the first layer of rebars over a long distance, with or without diameter measurement.

- ✓ Measuring over long distances
- ✓ Signal curve allows the user to manually verify and confirm the rebar position delivering an improved resolution
- ✓ Zoom in to scale according to your needs
- ✓ Display with cover curve or signal strength curve



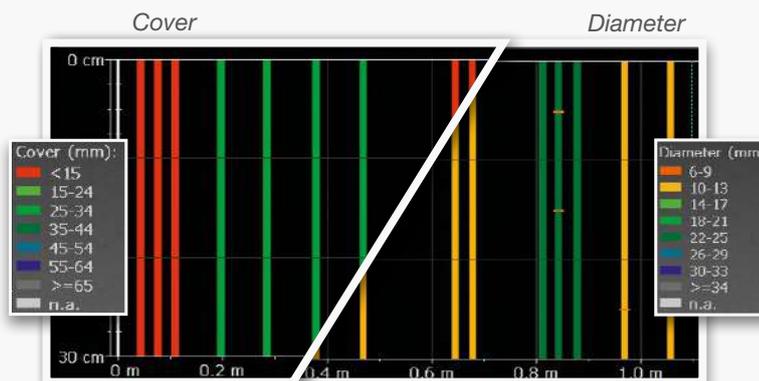
*Red color for easy identification of minimum cover violation*



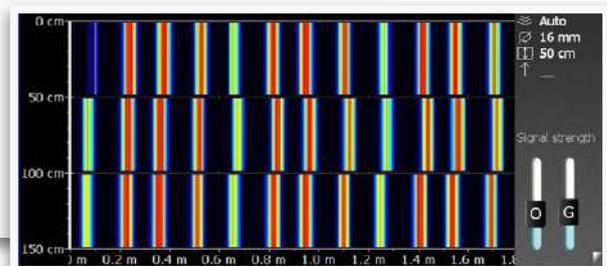
### Multi-Line Scan

Multiple linear scans across the first layer of rebars over a rectangular area. Cover, diameter and signal strength spectrum are shown in one view. Each line can be viewed individually in the Single-Line View.

- ✓ Color classification depending on cover and rebar diameter settings
- ✓ Signal strength spectrum for further evaluation



*Signal strength spectrum*



# Profometer® 630 AI

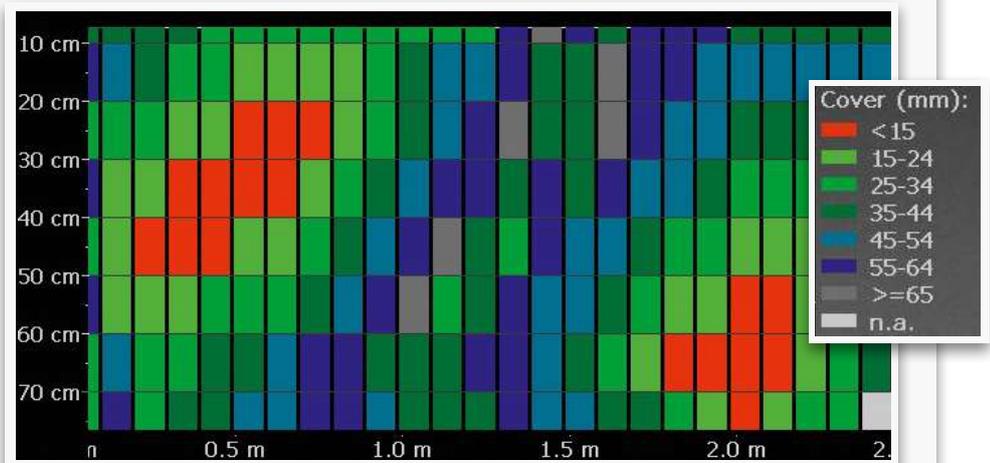
## Advanced Scan Cover Meter

### Area Scan

The grid display of the Area Scan Mode allows a simplified view of the measured cover data.

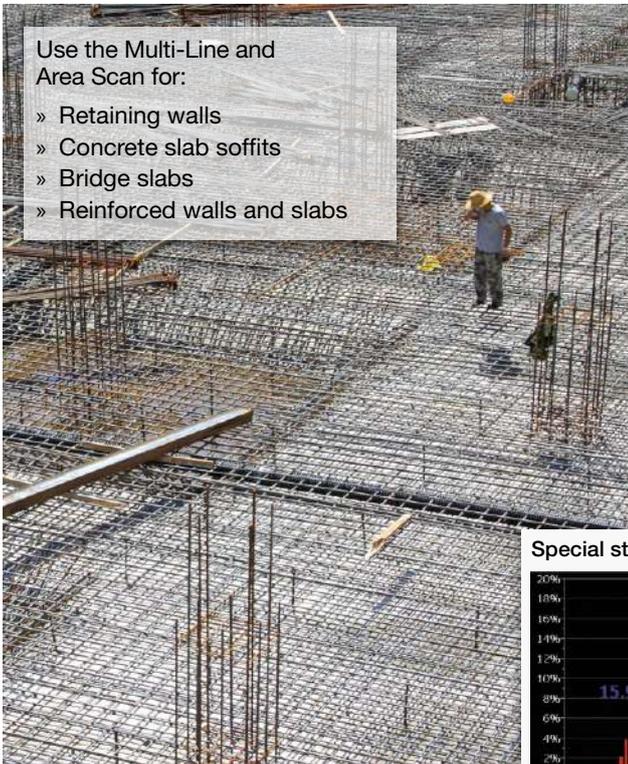
It is best suited for a combination with potential field measurements.

- ✓ Individual grid size can be selected
- ✓ Use in combination with Profometer Corrosion half-cell potential measurements for corrosion analysis

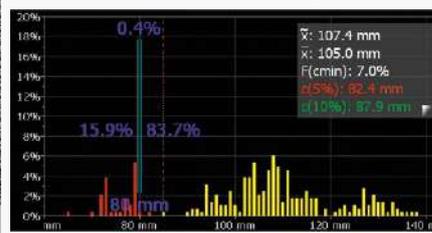


Use the Multi-Line and Area Scan for:

- » Retaining walls
- » Concrete slab soffits
- » Bridge slabs
- » Reinforced walls and slabs



Special statistic view according to DBV\*



\*German Concrete and Construction Association

# Profometer® 650 AI

## Advanced Cross-Scan Cover Meter

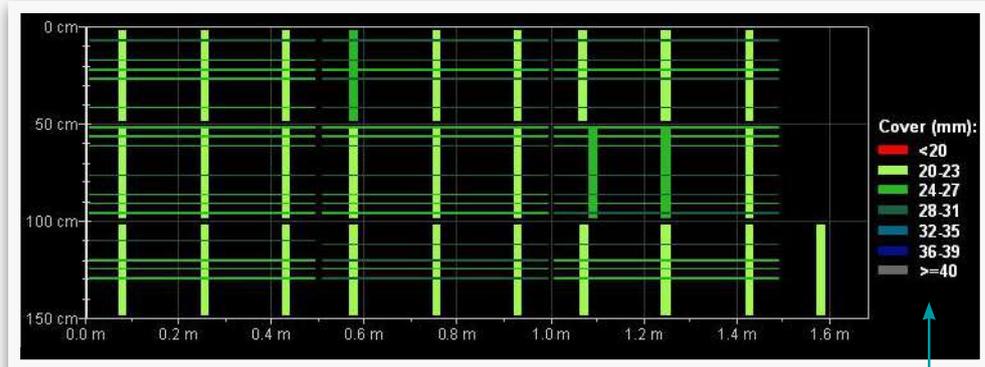
### Profometer 650 AI Overview

The Profometer 650 AI extends the features of the Profometer 630 AI further still with the unique Cross-Line Scan measuring mode and analysis functions. Full reporting features available, as required on large investigation campaigns where a comprehensive report is to be delivered to the client.

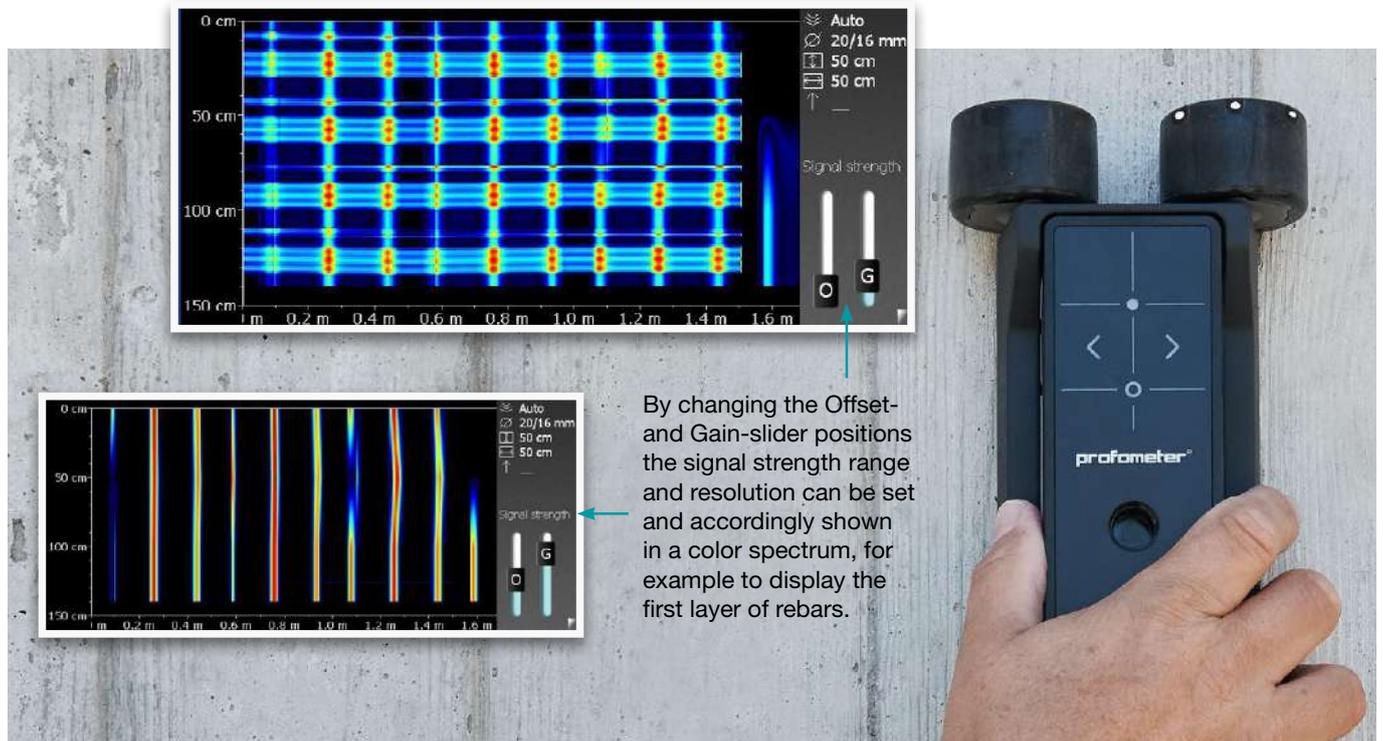
#### Cross-Line Scan

The 2D Cross-Line Scan extends the Multi-Line Scan with the special functionality of combining scans in the X- and Y-directions.

- ✓ Measuring the rebars of the first and second layer typically arranged in a rectangular mesh
- ✓ The signal strength spectrum can be seen in addition to the cover and diameter



Tap on the screen to switch between Cover, Diameter and Signal Strength View



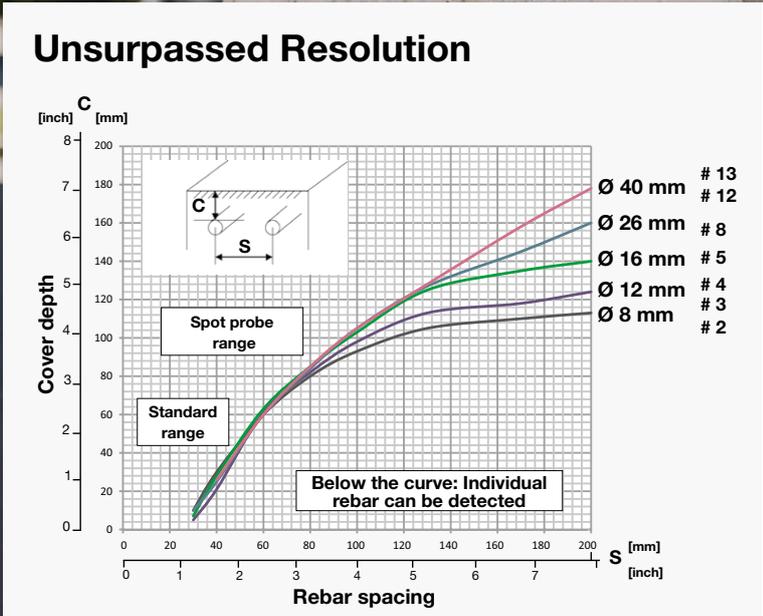
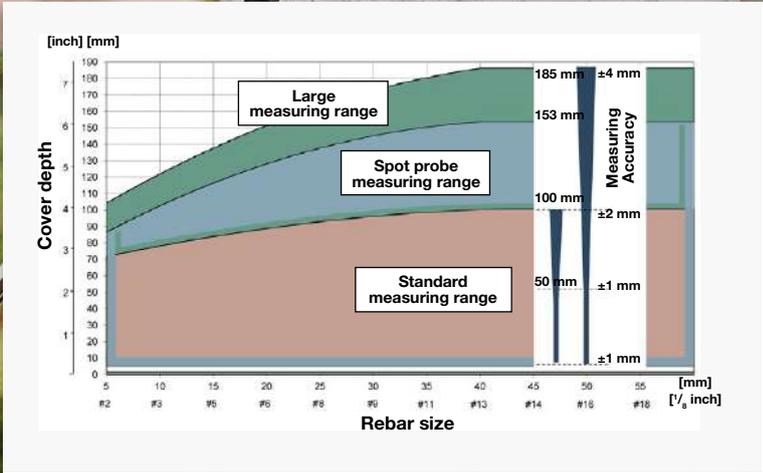
By changing the Offset- and Gain-slider positions the signal strength range and resolution can be set and accordingly shown in a color spectrum, for example to display the first layer of rebars.

# Profometer® Cover Meter

## Measuring Range



Telescopic extension rod with 3 meter (10 ft) probe cable especially suited for ceilings, high columns, and for comfortable floor scanning



### The Technology

The Profometer 6 instruments use **eddy current pulse induction technology** to detect rebars. Multiple coil arrangements in the probe are periodically charged by current pulses and thus generate a magnetic field.

On the surface of any electrically conductive material which is in the magnetic field eddy currents are produced. They induce a magnetic field in the opposite direction. The resulting change in voltage can be utilized for the measurement.

**Advanced signal processing** allows localization of a rebar, determination of the cover and estimation of the rebar diameter. This method is unaffected by all non conductive materials such as concrete, wood, plastics, bricks etc.

However any kind of conductive materials within the magnetic field will have an influence on the measurement.

# Profometer® Corrosion Corrosion Analysis Instrument

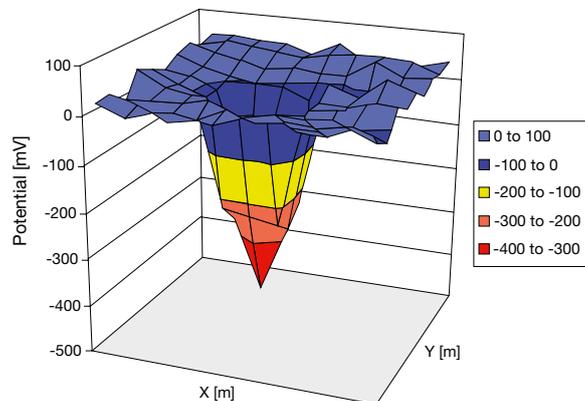
## The Technology

The half-cell method is used to identify active corrosion of re-bars based on the electro chemical properties of reinforced concrete. **All the Proceq electrodes (rod or wheel) are based on a Copper / Copper Sulphate (Cu/CuSO<sub>4</sub>) half-cell.** However specific applications or customer preferences sometimes require different reference electrodes. This is why the Profometer Corrosion voltage input range allows also the connection of Silver / Silver Chloride (Ag/AgCl) electrodes or Saturated Calomel (Hg/Hg<sub>2</sub>Cl<sub>2</sub>) reference electrode. **The standard cable supplied with the Proceq rod electrode can be easily connected to most third party rod electrodes allowing the full compatibility of the system.**



The detection of the hot spots where active corrosion begins involves the measuring of the localized negative values of the half-cell potential (i.e. corrosion potential). When using a rod electrode the user has to define a grid fine enough not to

miss any local negative peak, while the use of a wheel electrode on the new Profometer Corrosion ensures a new level of accuracy. **The wheel system is fast enough to measure the electrical potential continuously along its linear paths, ensuring the most negative measured value will always be recognized and stored with its associated location.**



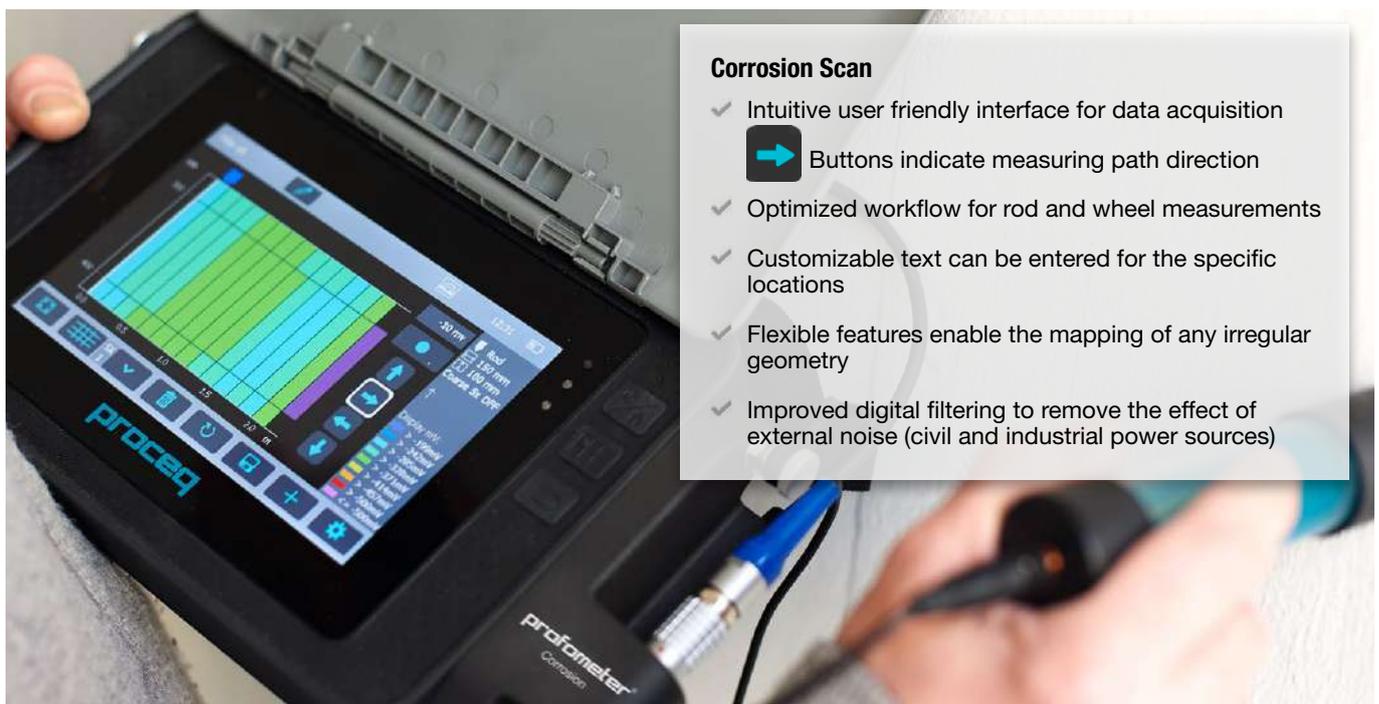
The electrical potential distribution over a corroding area can be represented as a “funnel” centered on the anode, whose shape and extent is defined by the actual ongoing corrosion as well as by the concrete electrical resistivity



# Profometer® Corrosion Corrosion Analysis Instrument

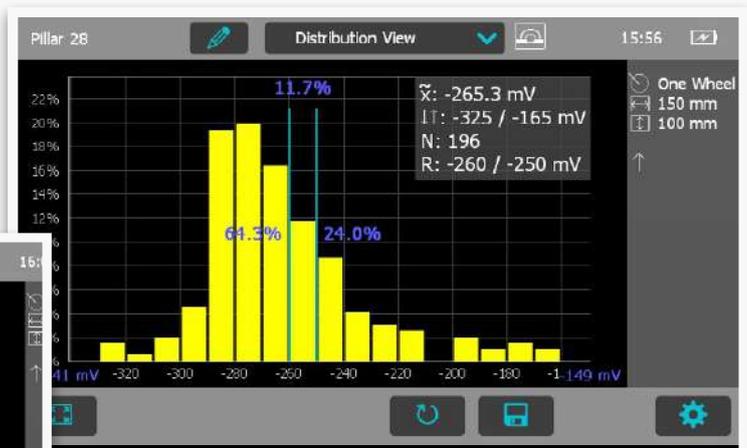
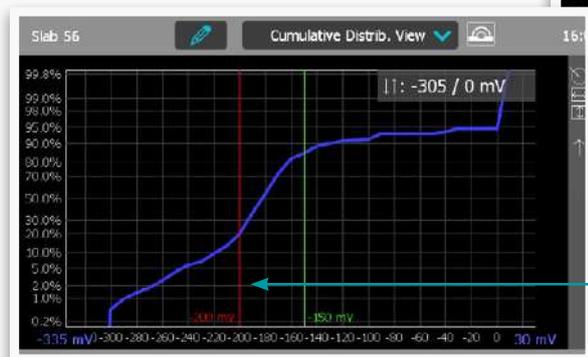
## Profometer Corrosion Overview

As the direct successor to the Canin, the Profometer Corrosion represents the most advanced corrosion instrument in the market based on the half-cell method. In addition to the basic rod electrode, the use of Proceq's unique one and four wheel electrodes enables the highest on site productivity on large areas.



## Statistical Views

- ✓ Immediate on site data interpretation
- ✓ Customizable Distribution, Cumulative Distribution, Chipping Graph Views
- ✓ Predefined ASTM compliant layout



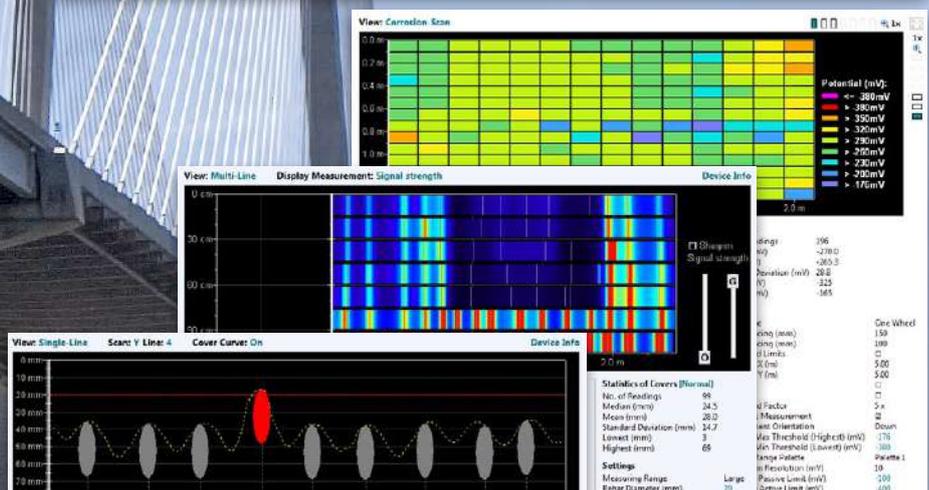
Adjustable cursors defining corrosion thresholds

# Profometer® Link PC Tool

## Profometer Link - A combined PC tool

Proceq Profometer Link PC tool is included with all Profometer 6 Cover Meter and Profometer Corrosion units. It is based on an integrated suite enabling the user to process the data coming from rebar detection / concrete cover as well as corrosion potential measurement. The Profometer units can be connected to the PC via USB and the software is fully compatible with Windows 7, 8 and 10 (32- and 64-bit).

- ✓ All features available on the touchscreen unit are also implemented on the PC
- ✓ Create custom reports with exported graphs and charts
- ✓ Support for the merging of several corrosion scans into a single graph
- ✓ Picture and table export (csv files) for further processing, combined data evaluation and reporting on any third party software



ET051/13 - All.

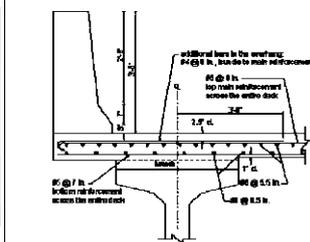
gtstudio

LOCATION: UG Slab H12

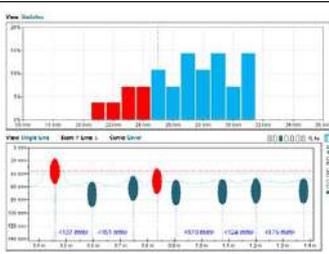
Pic / Graph



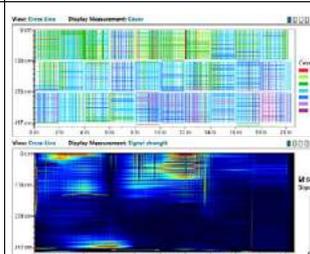
Pic / Graph



Pic / Graph

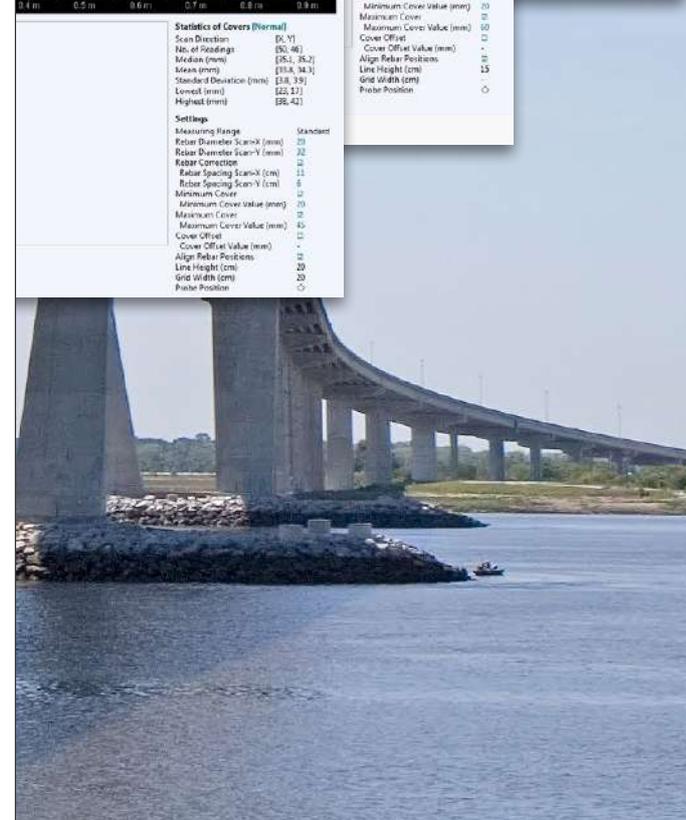


Pic / Graph



DATA

Snapshot	[Distance] Cover[mm]	Statistics of Covers [Normal]
1	10.00	Mean (mm) 20.0
2	10.00	Median (mm) 14.7
3	10.00	Standard Deviation (mm) 14.7
4	10.00	Lowest (mm) 3
5	10.00	Highest (mm) 65
6	10.00	No. of Readings 59
7	10.00	Mean (mm) 20.0
8	10.00	Standard Deviation (mm) 14.7
9	10.00	Lowest (mm) 3
10	10.00	Highest (mm) 65



# Technical Specifications

## Profometer 6 Cover Meters

Cover measuring range	Up to 185 mm (7.3 inch)
Cover measuring accuracy	± 1 to ± 4 mm (0.04 to 0.16 inch)
Measuring resolution	Depending on diameter and cover
Path measuring accuracy on smooth Surface	± 3 mm (0.12 inch) + 0.5% to 1.0% of measured length
Diameter measuring range	Cover up to 63 mm (2.50 inch), Diameter up to 40 mm (# 12)
Diameter measuring accuracy	± 1 mm (± # 1) on single rebar
Standards and guidelines	BS 1881-204, DIN 1045, DGZfP B2, SN 505262, SS 78-B4, DBV guidelines, CE certification

## Profometer Corrosion

Voltage measuring range	-1000 to + 1000 mV
Voltage resolution	1 mV
Impedance	100 MΩ
Sampling rate	900 Hz
Standards and guidelines	ASTM C876, RILEM TC 154-EMC, DGZfP B3, SIA 2006, UNI 10174, JGJ/T 152, JSCE E 601, CE certification

## Profometer Touchscreen Universal

Display	7" colour display 800x480 pixels
Memory	Internal 8 GB flash memory
Regional settings	Metric and imperial units and multi-language and timezone supported
Power input	12 V +/-25 % / 1.5 A
Dimensions	250 x 162 x 62 mm
Weight (of display device)	About 1525 g (incl. battery)
Battery	3.6 V, 14 Ah
Battery lifetime	> 8h (in standard operating mode)
Humidity	< 95 % RH, non condensing
Operating temperature	-10°C to +50°C
IP classification	Touchscreen IP54, universal probe IP67

## NDT Training on rebar assessment and corrosion analysis

Proceq's training modules are strongly focused on a practical approach to routine testing of in-situ concrete quality, as well as on user specific applications using the Profometer products. Visit our website or contact your Proceq representative.



# Ordering Information

## Upgrade kits

### Cover Meters

### Corrosion



Cover meter

392 10 001

#### Profometer 600

consisting of Profometer touchscreen, universal probe with ruggedized scan cart, probe cable 1.5 m (5 ft), power supply, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case



392 001 15 **Software upgrade** (activation key)

Scan cover meter

392 20 001

#### Profometer 630 AI

consisting of Profometer touchscreen, universal probe with ruggedized scan cart, probe cable 1.5 m (5 ft), power supply, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case



392 001 16 **Software upgrade** (activation key)

Cross-scan cover meter

392 30 001

#### Profometer 650 AI

consisting of Profometer touchscreen, universal probe with ruggedized scan cart, probe cable 1.5 m (5 ft), power supply, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case



392 50 001

#### Profometer Corrosion

consisting of Profometer touchscreen, interface box, battery charger, cable coil l=25 m (82 ft) with clamp, USB cable, DVD with software, documentation, carrying strap and carrying case



Spot checks

Ideal for line and area scans

Scanning areas at 4x speed

392 50 010

#### Profometer Corrosion rod electrode

with spare parts, cable and copper sulphate (250 g)



330 01 001

#### Profometer Corrosion one wheel electrode

with telescopic rod 1.7 m (5.6 ft), encoder, cables, spare parts, tool kit, copper sulphate (250 g), citric acid



330 01 004

#### Profometer Corrosion four wheel electrode

with telescopic rod 1.7 m (5.6 ft), encoder, cables, spare parts, tool kit, copper sulphate (250 g), citric acid (250 g), carrying case



②

392 50 002

#### Upgrade kit to Profometer Corrosion

consisting of interface box, cable coil, l=25 m (82 ft) with clamp, DVD with software, documentation and carrying case



## Upgrade kits

①

392 50 003

#### Upgrade kit to Profometer 600 Cover Meter

consisting of universal probe with ruggedized cart, probe cable 1.50m (5ft), software upgrade to cover meter



## Accessories

392 40 040 Profometer 6 telescopic extension rod 1.7 m (5.6 ft) with probe cable 3 m (10 ft)

330 00 322 Profometer Corrosion telescopic extension rod for rod electrode 1.7 m (5.6 ft), with 3 m (10 ft) cable

327 01 053 Quick charger (external) for touchscreen unit

356 00 082 Display antiglare protection film for touchscreen unit

327 01 033 Spare battery

## Service and Support

Proceq is committed to providing the best support and service available in the industry through the Proceq certified service centers worldwide. This results in a complete support for the Profometer by means of our global service and support facilities.

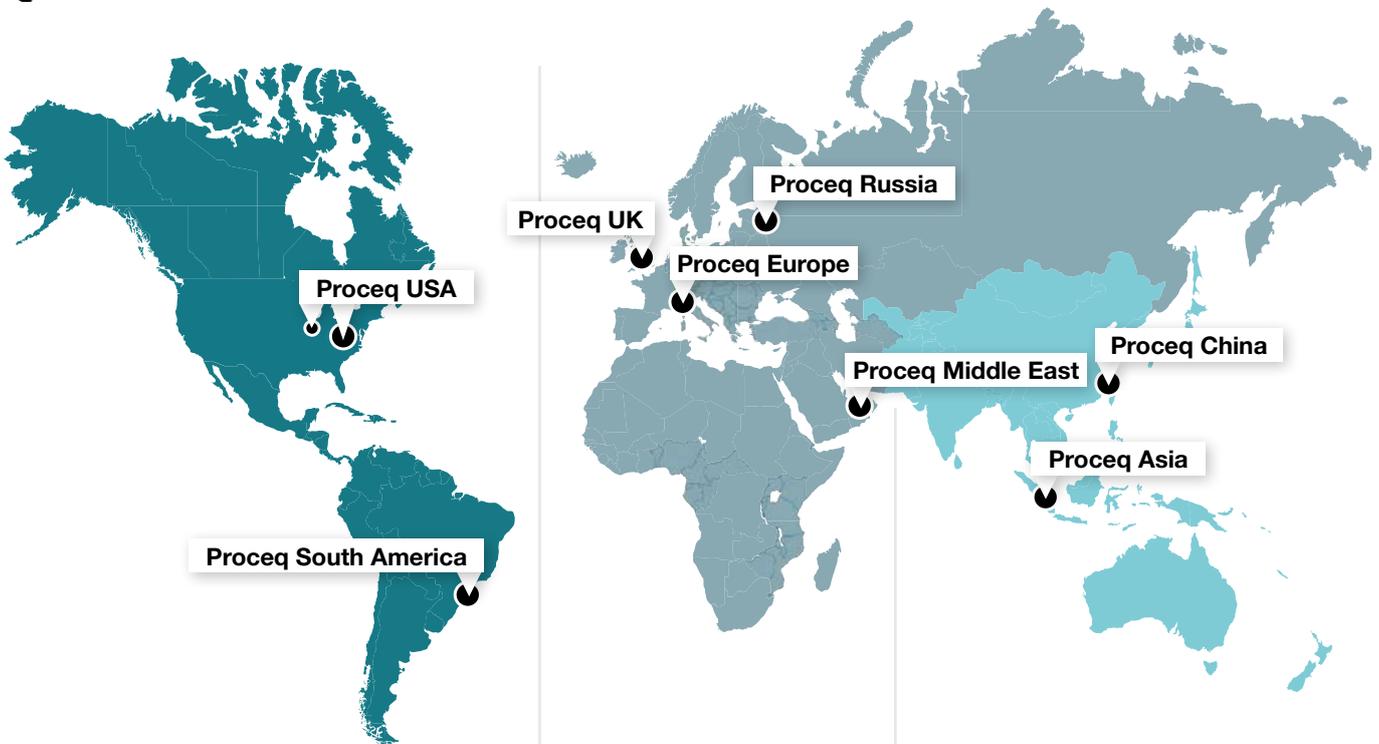
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## Warranty Information

Each instrument is backed by the standard Proceq warranty and extended warranty options.

- » Electronic portion of the instrument: 24 months
- » Mechanical portion of the instrument: 6 months

 Click on the Proceq subsidiaries for more information



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 E-Shop USA

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Globally organized seminars to help you learn more about our products and applications.  
Contact your local representative for further information.

## Proceq SA

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## Fully integrated Rebar Detector

Get the most trusted instrument for rebar detection, cover depth and rebar diameter measurements.

### The challenge

Concrete structures contain reinforcement bars to strengthen the construction. The Profoscope instruments are used to accurately determine the location of rebars and their cover depth beneath the surface. The instruments can also assess the rebar diameter. The Profoscope's rebar detection function and its capability of separating rebars which are located close to each other are groundbreaking.

### The Profoscope Solution

Profoscope has a unique real-time rebar-visualization, allowing the contractor to actually "see" the location of the rebar beneath the concrete surface. This is coupled with rebar-proximity indicators and optical and acoustical locating aids.

The Profoscope+ has all the features of the classic Profoscope. In addition, the instrument can record measurement data, manually or automatically. This increases testing efficiency on the construction site significantly. The included software tool allows post-processing or exporting of the collected data.

### Benefits to the Customer

**Versatility;** rebar location and orientation, cover measurement and rebar diameter assessment all provided by a single, fully integrated, cordless instrument.

**Ease of use;** the intuitive user interface and the real-time visualization of the rebars make the instrument very easy to use.

**Durability;** Sealed housing for use in rough environment with replaceable protection cover for long lasting performance, over a wide temperature range.

**Memory functions (Profoscope+ only);** Two different modes of operation are supported:

1. Manual data storage allows the user to save concrete cover and rebar diameter on individually chosen spots.
2. Automatic data storage is especially designed for surface scans. Every time a rebar is detected, the cover value is stored automatically.

**Data export and analysis (Profoscope+ only);** The ProfoLink software offered by Proceq is a professional tool to analyze the measurement results.

## Fully-Integrated, Cordless Design



The Profoscope is designed for single handed operation. All functions can be programmed/activated using the two function keys and the navigation.

The instrument is compact, light and robust. This makes it suitable for use on a construction site.

- |                   |                       |
|-------------------|-----------------------|
| 1 Display         | 5 LED indicator       |
| 2 Navigation      | 6 Function key        |
| 3 Reset key       | 7 On/off button       |
| 4 Center of probe | 8 Battery compartment |
|                   | 9 Center line         |

## Icon Based Menu System

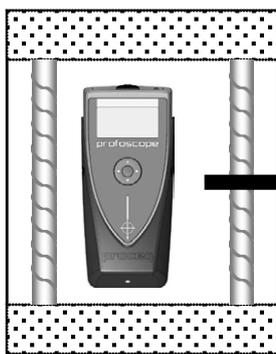
The menus are designed with intuitive icons to make the Profoscope language independent.



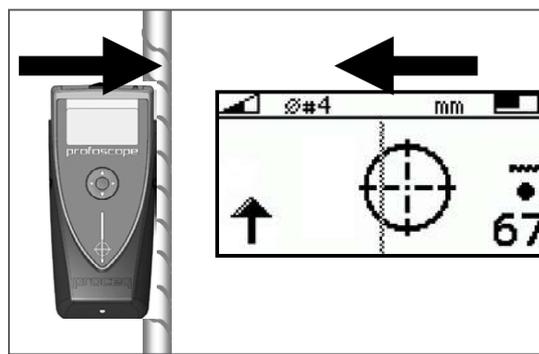
\* Profoscope\* only

## Real-time Visualization of Rebars

The Profoscope makes rebar location faster and simpler than ever before. A rifle scope shows the position of the rebar beneath the instrument in real time. Every Profoscope is supplied with a start-up test kit as standard. This kit allows the user to familiarize him/herself with the operation of the instrument.



Locating a rebar

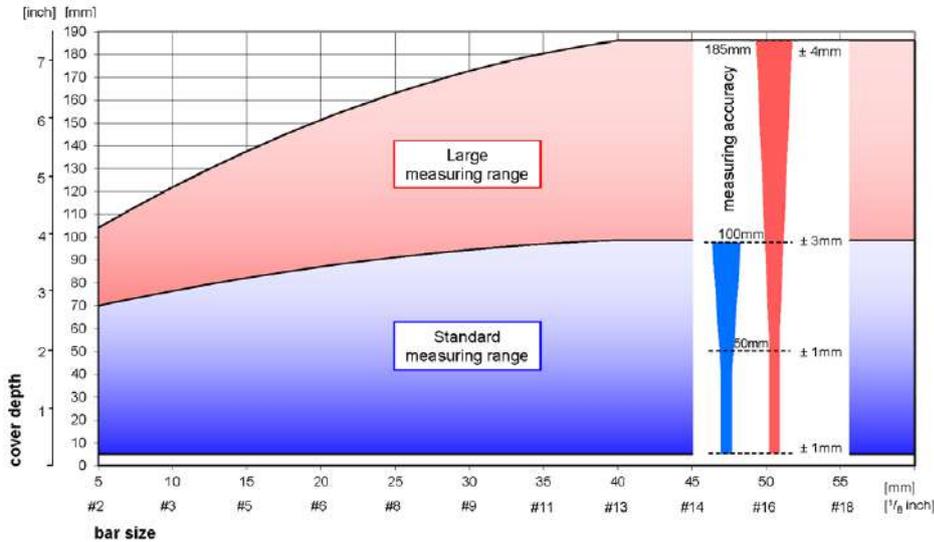


Test Kit



## Measuring Range

This graph shows the maximum possible measuring range for the Profoscope, compliant with BS1881 part 204. Please note: This is based on a single rebar with sufficient clearance to neighboring rebars.



The Profoscope is calibrated for measurements on non-stainless steel rebars fastened with binding wires only.

When measuring on welded meshes the displayed values must be corrected.

**Note:** The rebar diameter can be measured up to a cover of 64mm (2.5 inch).

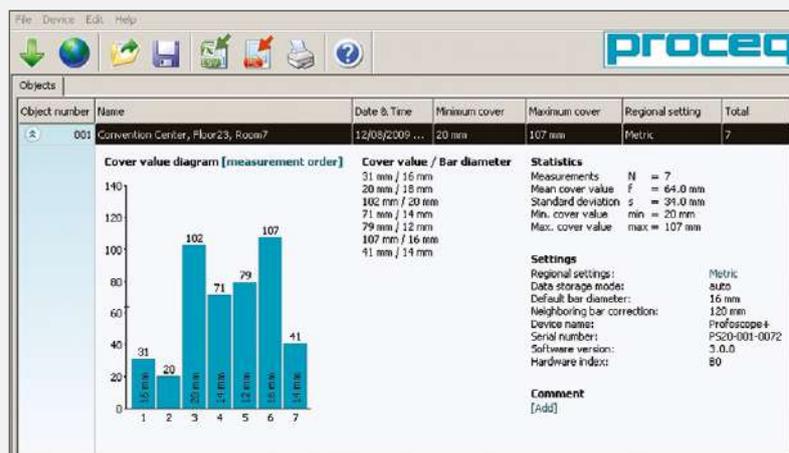
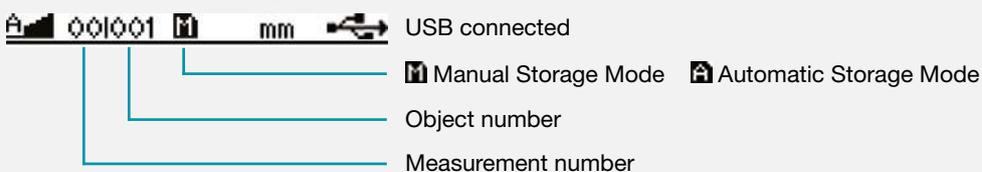
## Advanced Features of Profoscope+

Manually recording the measurements of a test series is time consuming and is an unnecessary source of error. With the various data storage modes of the Profoscope+, taking notes is not necessary anymore.



## Memory Function and Profolink

The graphic display of the Profoscope+ shows all necessary information while acquiring data on site.



The collected measurement values can then be analyzed with the Profolink PC tool.

## Technical Information

<b>Measuring Range</b>	
See graph on previous page for maximum range relative to bar diameter.	
<b>Power Supply</b>	
Power source	2 x 1.5 V AA (LR6) batteries
Voltage range	3.6 V to 1.8 V
<b>Current Consumption</b>	
Power on, backlight off	~ 50 mA
Power on, backlight on	~ 200 mA
Sleep mode	~ 10 mA
Power off	< 1 µA
<b>Battery Lifetime</b>	
Backlight off	> 50 h
Backlight on	> 15 h
<b>Time Outs</b>	
Sleep mode	30 s
Auto shut down	120 s
<b>Environmental Conditions</b>	
Temperature range	-10° to 60° C (14° to 140° F)
Humidity range	0 to 100% rH
Protection class	IP54
<b>Standards and Regulations Applied</b>	
BS1881 part 204; DIN1045; SN 505 262; DGZfP B2	
<b>Data Storage (Profoscope+ only)</b>	
49'500 measurements total (500 objects with 99 measurements)	
Compatibility ProfoLink: Windows 2000, XP, Vista, 7, 8	

## Ordering Information

Unit	
<b>Part Number</b>	<b>391 10 000</b>
	Profoscope unit consisting of:  Profoscope incl. start-up test kit and accessories (batteries, canvas bag, carrying strap, chalk, documentation)
<b>Part Number</b>	<b>391 20 000</b>
	Profoscope+ unit consisting of:  Profoscope+ incl. start-up test kit and accessories (batteries, memory card, USB-cable, canvas bag, carrying strap, chalk, documentation, ProfoLink software)

## Accessories

<b>Standard Accessories delivered with the Profoscope / Profoscope+</b>	
391 80 100	Canvas bag
350 74 025	Battery type AA
391 80 110	Carrying strap
<b>Additional Accessories delivered with the Profoscope+ only</b>	
391 80 803	USB cable type A-mini B
391 80 111	Memory card microSD, 2GB
391 80 112	CD incl. ProfoLink
<b>Optional Accessories</b>	
391 10 121S	Self-adhesive protection covers (Set of 3)
390 00 270	Calibration test block
325 34 018S	Chalk (Set of 10)

## Service & Warranty Information

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

<b>Standard Warranty</b>	
•	Electronic portion of the instrument: 24 months
•	Mechanical portion of the instrument: 6 months
<b>Extended Warranty</b>	
391 88 001	Additional 1-year warranty*
391 88 002	Additional 2-year warranty*
391 88 003	Additional 3-year warranty*
* An extended warranty of one, two or three years can be purchased at time of order or within 90 days thereafter.	



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