

Half-cell potential meter

Corrosion Sensor

Profometer PM8500





Detect and map corrosion potential

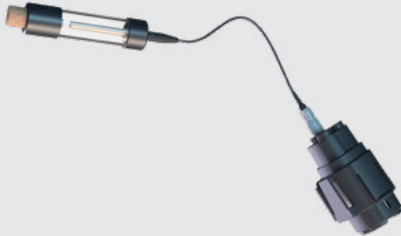




Portfolio

Screening Eagle’s Proceq has been manufacturing efficient solutions for detecting corrosion potential in concrete structures since 1992. Our Profometer PM8500 is our most powerful and efficient solution for on-site mapping of corrosion potential.

Choosing the correct electrode for the job

	Fixed Grid	Flexible Grid	
Rod Electrode Scan small areas: columns, beams, footings... 	100x100m ² ✓		50 m ² / hour
One Wheel Electrode Scan bigger vertical and overhead areas: walls, roofs... 	100x100m ² ✓	+/- 100x100m ² ✓	450 m ² / hour
Four Wheel Electrode Scan big horizontal areas: slabs, parking garages, bridge decks... 	100x100m ² ✓	+/- 100x100m ² ✓	1800 m ² / hour





Profometer
PM8500

PM8500 Corrosion Kit

Complete sensor and software solution

Rod Electrode



Productive

Conduct fast scans in difficult-to-access or small areas such as columns, beams, steps and footings.



Ergonomic

The small and light electrode makes it comfortable to maneuver and measure with precision.



Easy-to-use

Includes powerful software for corrosion assessment with several views for easy data evaluation and interpretation.



PM8500 Corrosion Kit Overview

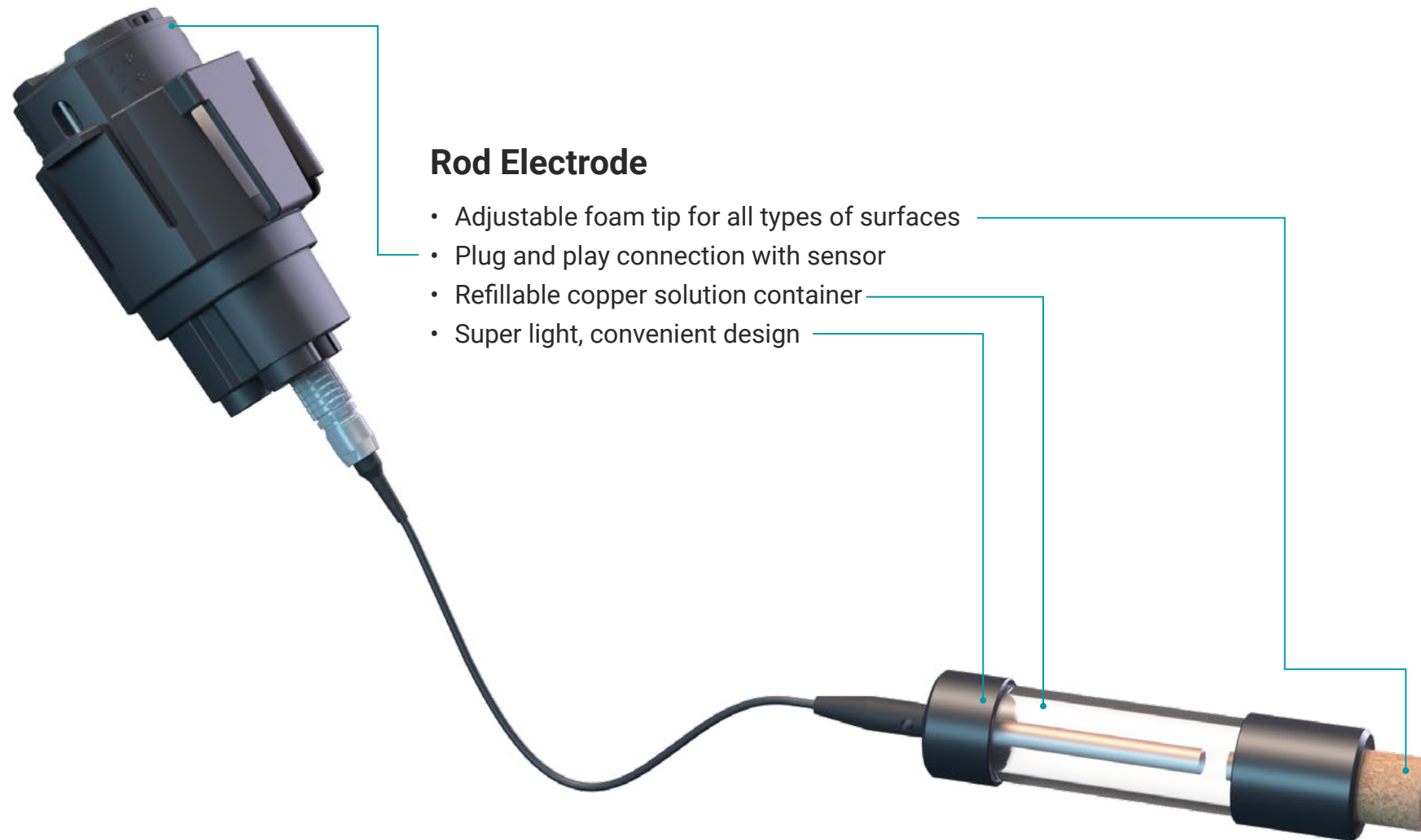
Unit

- Rugged and compact design
- Powered by flight-safe AA batteries with +8h autonomy
- Wireless Bluetooth connection to iPad (up to 4m)
- USB port for firmware updates



Rod Electrode

- Adjustable foam tip for all types of surfaces
- Plug and play connection with sensor
- Refillable copper solution container
- Super light, convenient design





PM8500

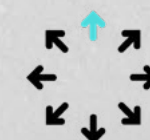
Rapid Fixed and Flexible Grid Scans

One-wheel Electrode



Productive

Conduct fixed grid scans up to 10'000 m² and flexible grid scans up to 20'000 m² with measurement speeds up to 450 m² per hour



Versatile

Comfortably measure vertical and overhead medium sized areas, walls, ceilings and non-accessible elements.

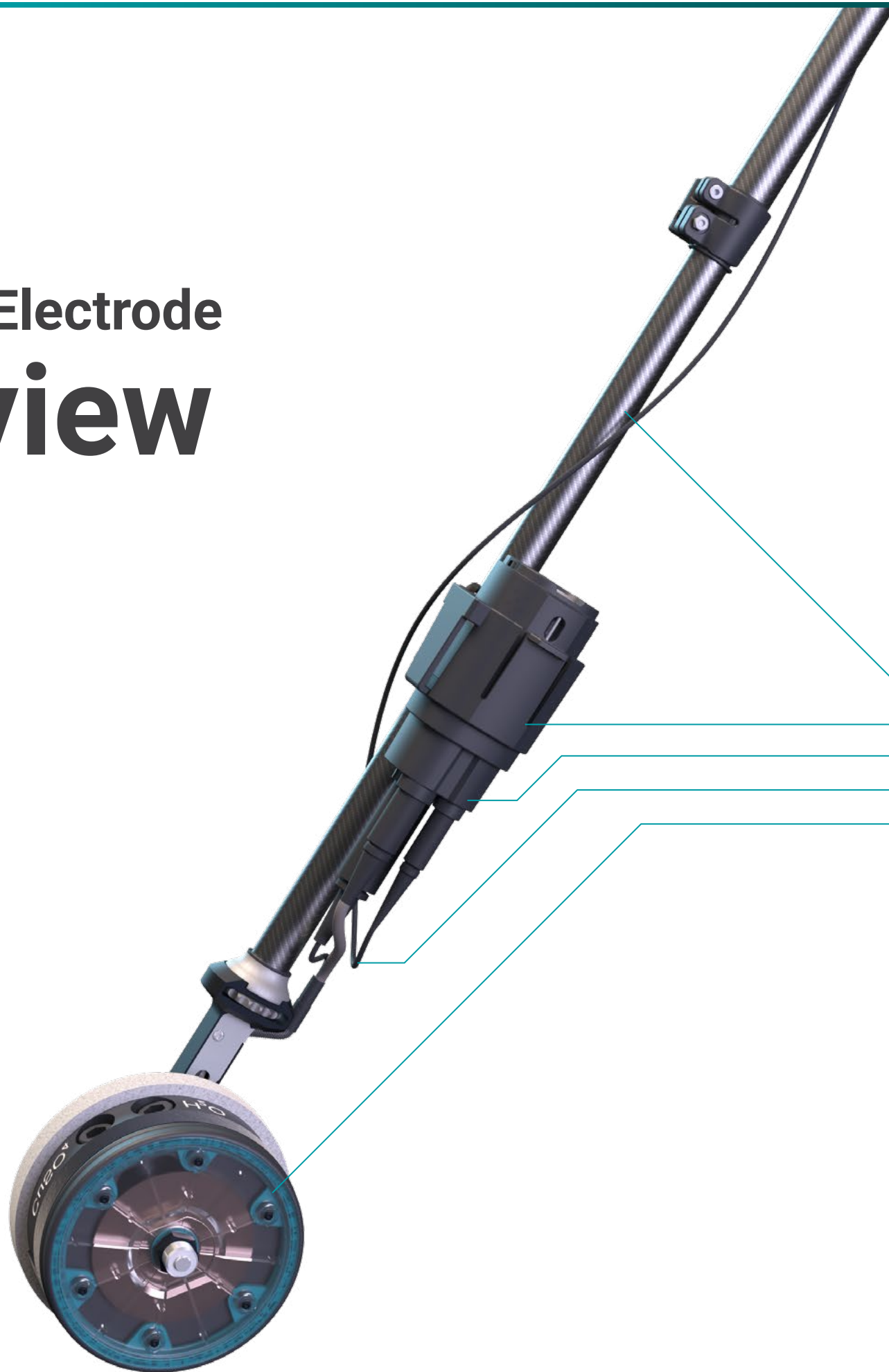


Precise

Ensure better results with on-site calibration of the high-precision path length encoder.



One-wheel Electrode Overview



- Robust, extendable telescopic rod
- Sensor holder for hands-free measurement
- High precision encoder to minimize error
- Minimal cable design reduces errors due to loose cables
- Very stable wheel for smooth flow during line scans



Profometer
PM8500

PM8500

Fast and Flexible Area Scans

Four-wheel Electrode



Super-efficient

Unique wheel electrodes deliver ultra-fast mapping of corrosion with measurements of up to 1800m² per hour.



Flexible

Adjustable wheel spacing to optimize for speed or resolution when scanning large areas including slabs, car parks and bridge decks.



One-of-a-kind

World's fastest half-cell potential data acquisition with real-time data analytics and visualization.



Four-wheel Electrode Overview



- Robust telescopic rod for reliable measurements
- Sensor holder for hands-free measurements
- High precision encoder for enhanced results
- Adjustable wheel spacing from 150 – 250 mm



Technology

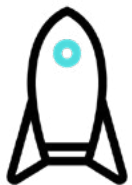
Half-cell Potential

Half-cell Potential testing is a standardized method to determine the likelihood of corrosion of the rebars. It works by measuring the electrochemical potential difference between a reference electrode and a rebar embedded in the concrete.



Non-destructive

The early stages of corrosion can be detected without causing any damage, which enables prompt remediation before significant damage occurs.



Quick and easy

Half-cell potential testing can be performed quickly and over a large area with immediate and automated data analysis for a completed diagnosis while on site.





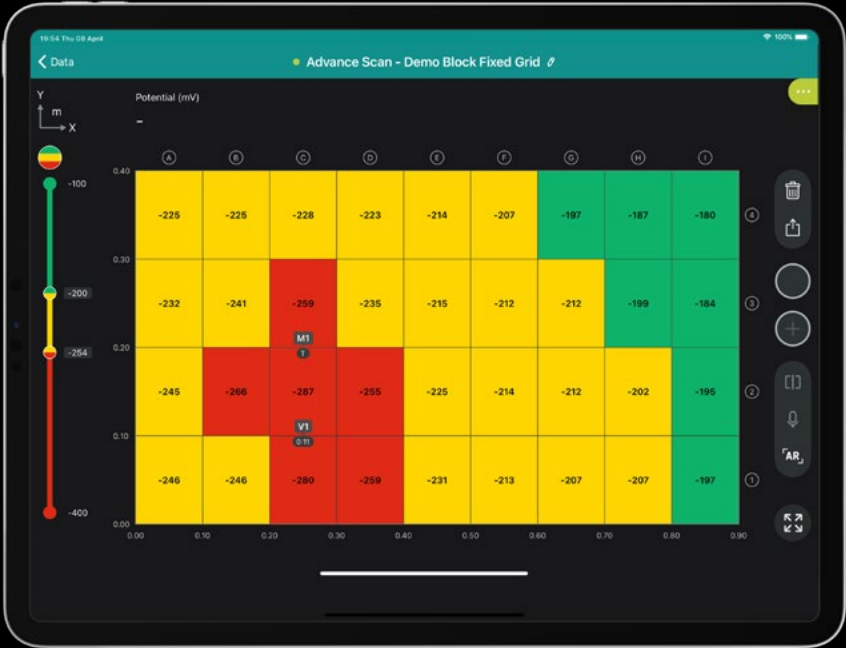
Software

Unique flexibility for data acquisition, configuration and exporting.

PM app

Spot Scan using Rod Electrode

Fixed grid



Area Scan using Wheel Electrodes



Fixed grid

Flexible grid





Software Scanning Features

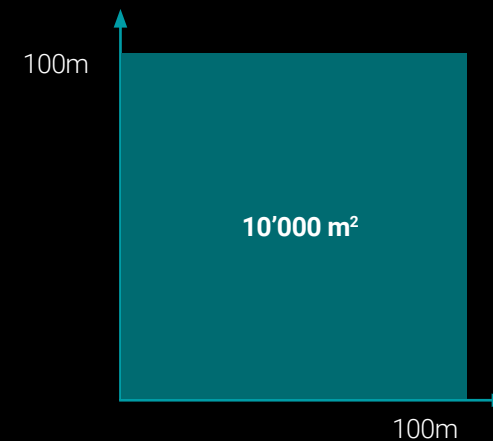
PM app

More flexibility while scanning than ever before...

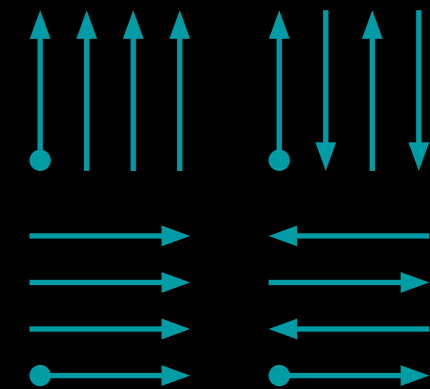
The PM app gives you more flexibility than ever to detect corrosion potential in complex structures. With a few taps on the iPad, you can:

- Scan forwards or negative in either horizontal or vertical direction
- Begin a scan from any cell
- Jump to any cell to continue the scan
- Skip cells easily by entering a predefined skip distance
- Select and maintain the zoom level while scanning
- Open a saved scan and continue scanning

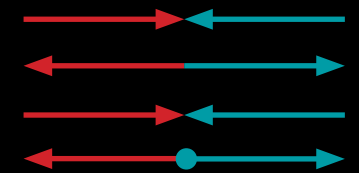
Fixed grid Rod and wheel electrodes



Flexible scanning patterns

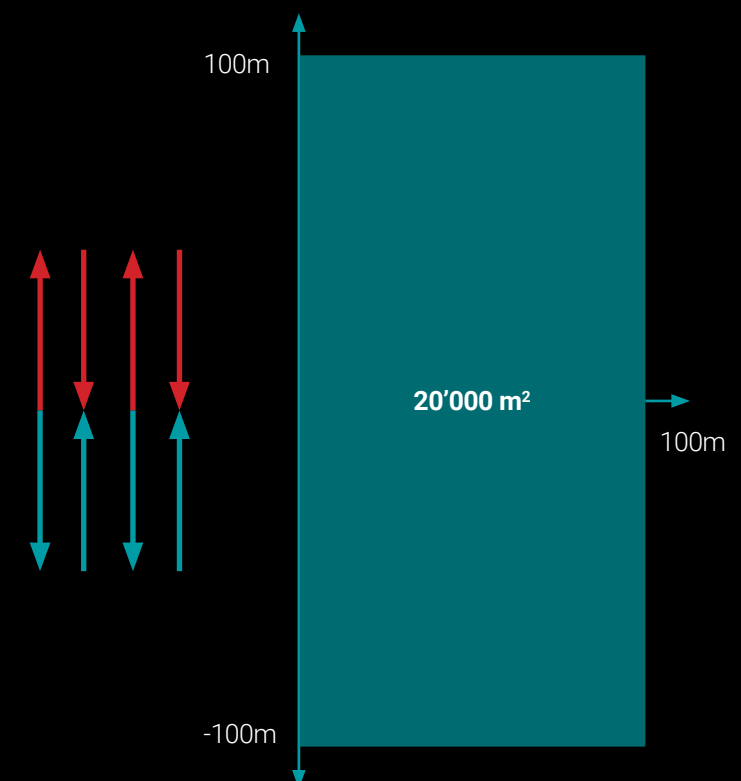


Flexible grid Horizontal scanning
with wheel electrodes



Scanning also in negative
direction

Flexible grid Vertical scanning with
wheel electrodes





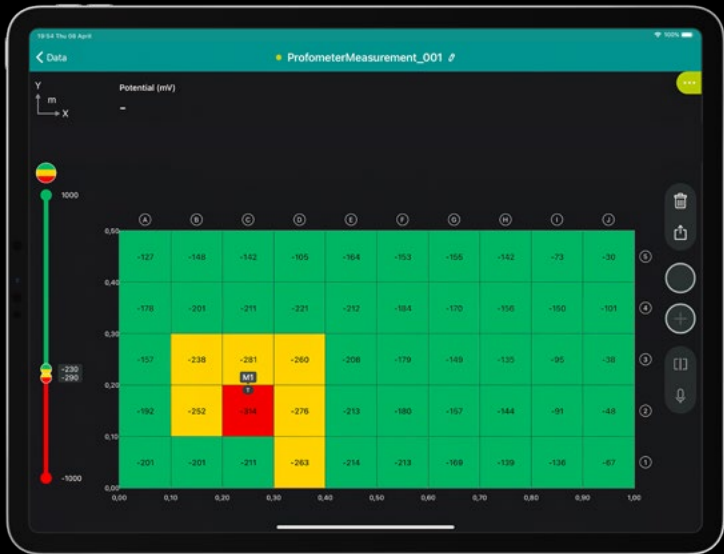
Software

PM app

Measurement Modes

Basic Mode for fast and easy evaluations

- Quickly identify repair areas without post-processing data
- Create a Corrosion Heatmap using ASTM standard threshold limits or manual threshold limits
- Create a Chipping Graph using threshold values from ASTM Standards



Advanced Mode with onsite post-processing for detailed interpretation

- Generate a raw Potential Map while you measure
- Use the statistics view to select corrosive and passive threshold values using the cumulative frequency graph
- Calculate thresholds considering real data
- Create a chipping graph with the new threshold values



Go step-by-step from Potential Map to Chipping Graph

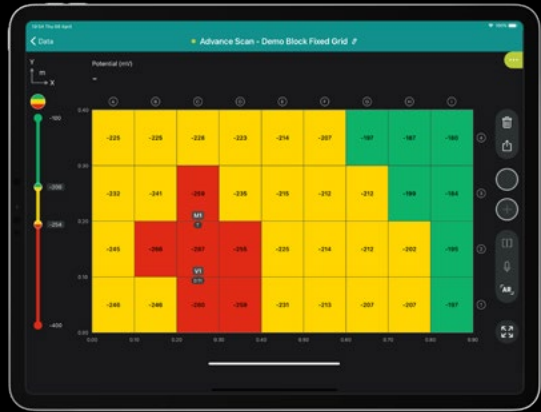
1. Potential Map

Potential map provides a clear area mapping of the measured potential values from raw data.



2. Statistics View

Statistical view shows you the relevant statistics to determine the corrosion threshold limits.



3. Chipping Graph

Custom chipping graph considers all of the statistical values to show areas with high probability of active corrosion.



Never lose any measurements

Workspace

Collect, Sync, Share



Increased productivity

All measurements taken with the PM8500 are automatically synced with Screening Eagle Workspace for easy management.



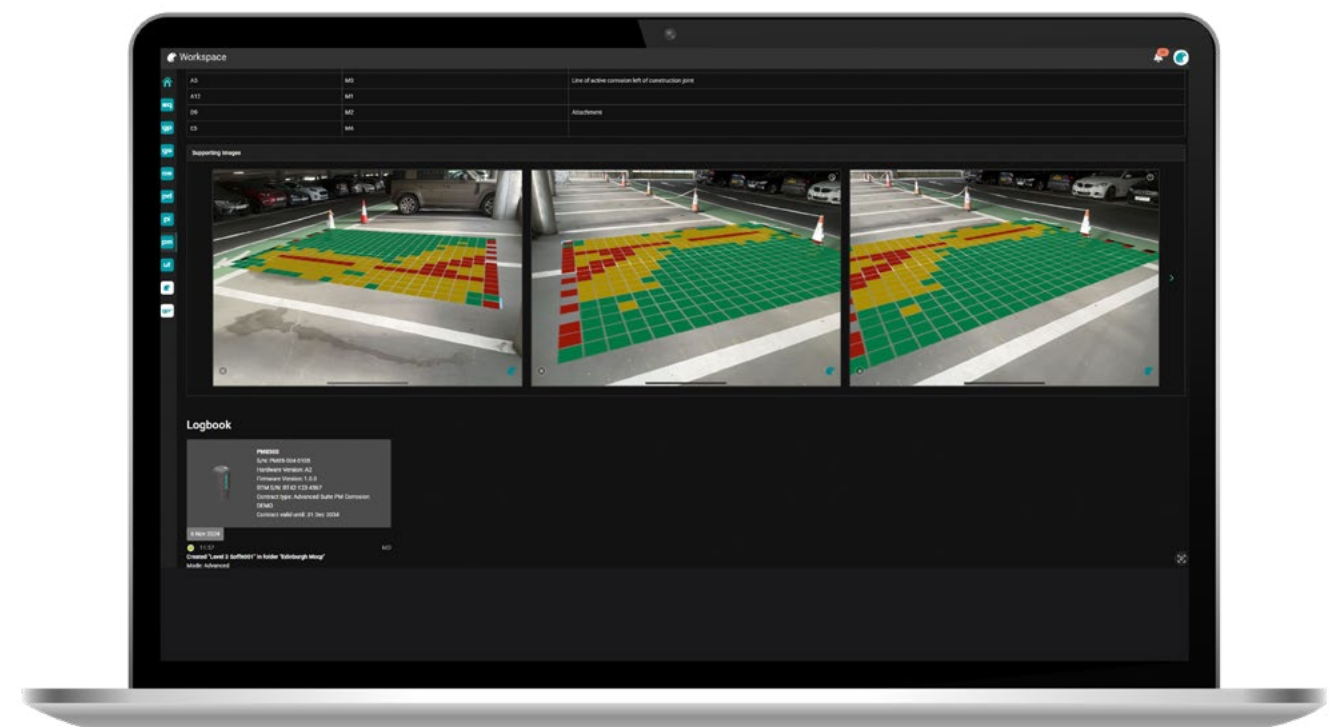
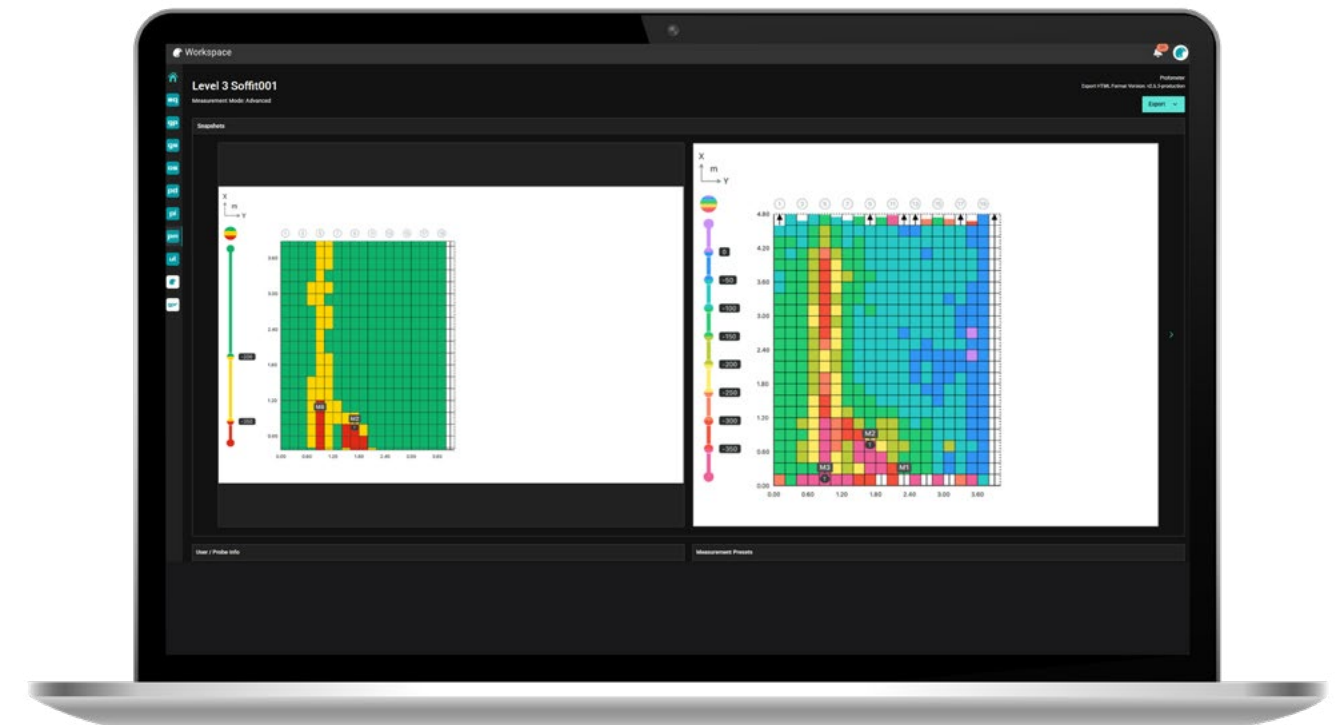
Enhance traceability

Reading, sharing and reporting data becomes a breeze with convenient tabs that provide all statistical values, screenshot views and logbook information for traceability.



Boost collaboration

With all measurements in one online space, they can be viewed by stakeholders anywhere, at anytime via a simple URL link.



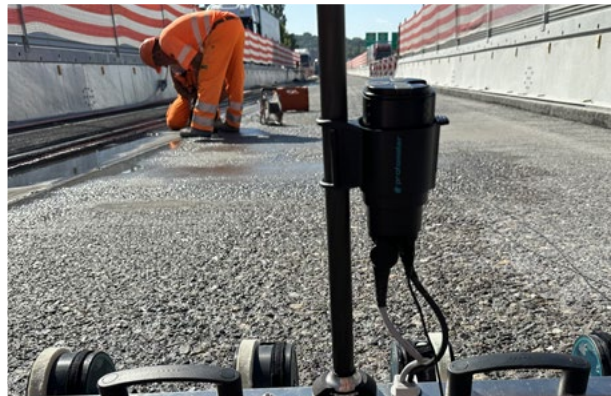


Applications

PM8500

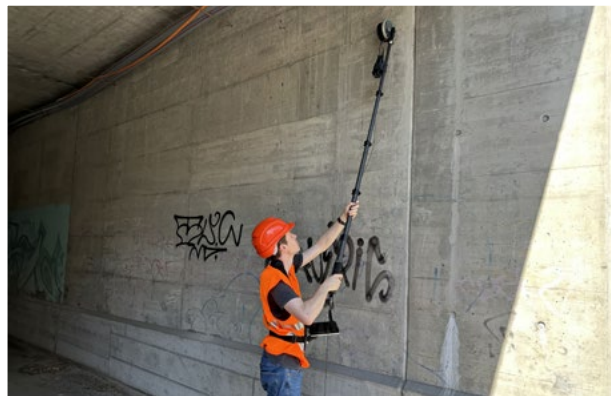
Corrosion potential mapping

Enable rapid and accurate corrosion mapping of reinforced concrete structures, with valuable insights for targeted maintenance and repair planning.



Estimation of concrete durability

Conduct accurate estimation of concrete durability, providing valuable data for predicting service life and informing maintenance decisions.



Evaluation of corrosion repairs

Validate the effectiveness of corrosion repairs on all types of concrete structures to improve longevity and ensure a safer, more reliable operation.





Applications

CASE STUDIES

Click on image or read QR code

**Efficient Detection of
Corrosion in the Concrete
floors of a Parking Garage**



**How to Perform a Detailed
Concrete Corrosion
Assessment in Four Steps**





HW Specs



PM8500



PM8500 HW specs

Technology

Half Cell Potential

Measured Quantity

Corrosion potential in milivolts [mV]

Connection

Wireless - Bluetooth

Cover Measuring depth

First rebar layer

Voltage Measurement Range

+1000mV to -1000mV

Resolution

+/-1mV

Input Impedance

100MOhm

Encoder Accuracy

+/- 0.5 mm / 0.02 in + 0.78% of measured length
Resolution: 3.3 mm / 0.13 in
(128 steps / rotation)

Max Scanning Speed

1 m/s - 3.3 ft/s

Max Area Scan

Fixed grid 100 x 100 m2 – 330 x 330ft / Flexible grid +/-100 x 100 m2 - +/- 330 x 330 ft

Dimensions Sensor unit

(127 x 59 x 56)mm / (5 x 2.3 x 2.2)in without holder
(127 x 98 x 72)mm / (5 x 3.9 x 2.8)in with holder

Rod electrode

D= 36mm x 155mm / D=1.4 in x 6.1 in with protection-cap

Weight Sensor unit

150g / 0.33 lbs without holder
220g / 0.49 lbs with holder

Rod electrode

120g / 0.26 lbs without cable / without cupper sulfate, without Interface-Box

Standard kit (all items including carrying case)

7400g / 16.3 lbs

One wheel kit (all items including cartoon box)

2900g / 6.39 lbs

Four wheel kit (all items including carrying case)

17660g / 38.93 lbs

Battery

1xAA (NiMH) rechargeable or non rechargeable
Removable
Flight-safe



SW Specs

PM8500

Display Unit

Any compatible Apple iPad (iOS 11.0 and higher)

Export formats

JPG (Screenshot)
PNG
CSV
HTML
AutoCAD (DXF)

Half cell compatibility

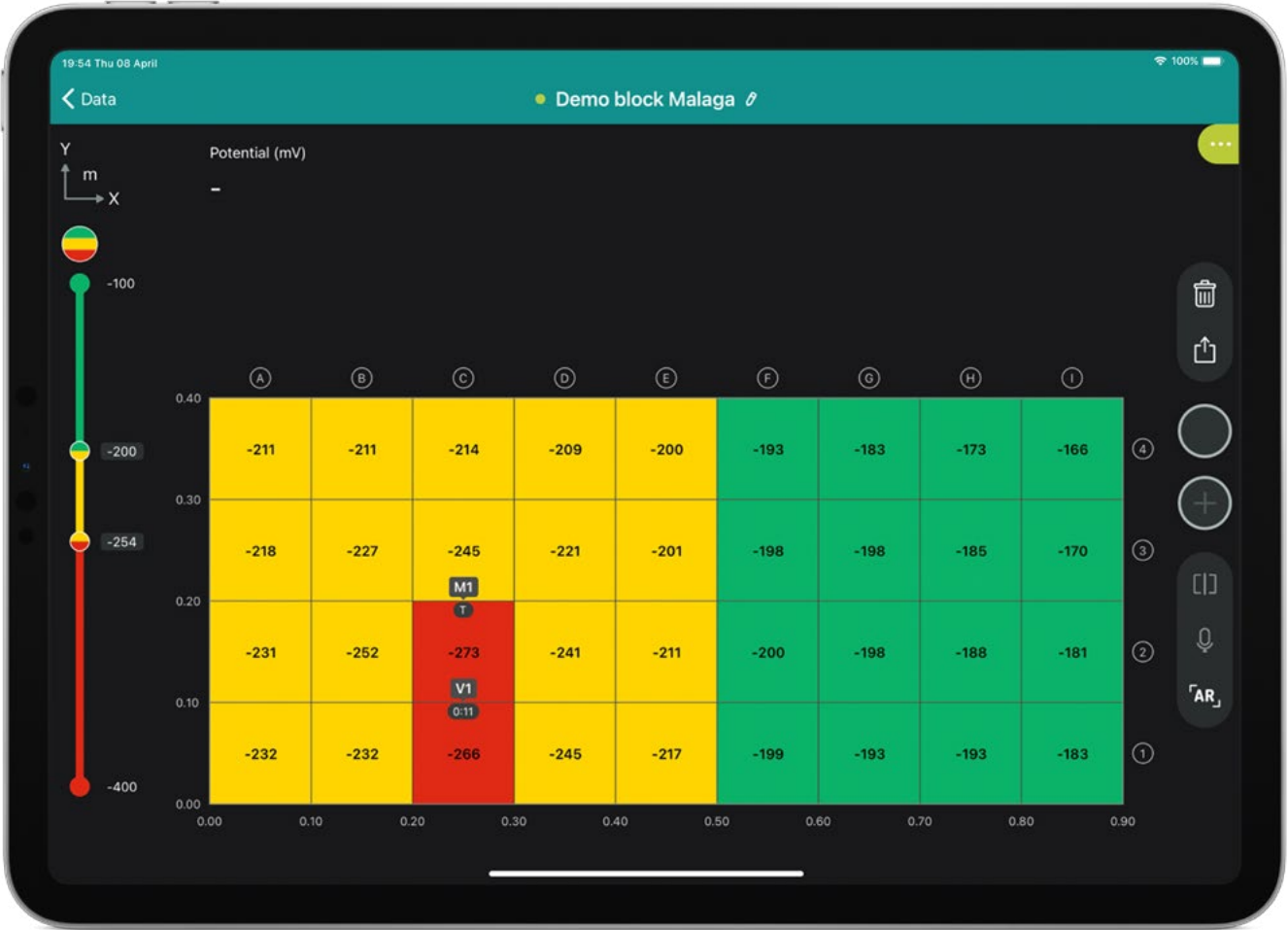
Cu/CuSO4
Ag/AgCl
Hg/Hg2Cl2

Display Unit Specs*:

Latest Apple® iPad recommended (iPad with iOS 11.0 and higher)
Screen size: From 7.9" to 12.9"
Resolution: Up to 2732-by-2048
Memory: Up to 2TB
Weight: Down to 301 g / 10.6 oz
Camera: Up to 12MP Wide and 10MP Ultra Wide
Optional: USB-C, 5G, Face ID

Display Unit Sensors*:

LiDAR Scanner (optional)
Three-axis gyro
Accelerometer
Ambient light sensor
Barometer
Built-in GPS/GNSS



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



Company

Screening Eagle Technologies is a connected ecosystem of software and sensors for intelligent inspection of the built environment.

Our mission is to protect the built world and enable a society that is safe for all, is of high quality, operates reliably and is truly sustainable. We aim to democratize Built World Data, empower service professionals with easy-to-operate technology, and allow asset owners to make data-driven investment decisions. Together, we contribute to a society that gives back more to nature than it consumes, creating a built world for future generations to enjoy and thrive within.

HEADQUARTERS

Proceq AG

Ringstrasse 2
8603 Schwerzenbach
Switzerland
Headquarters: +41 43 355 38 00
Sales Europe: +41 43 588 34 92
Support Europe: +41 43 508 17 02

EMEA

Proceq AG

Ringstrasse 2
8603 Schwerzenbach
Switzerland
Sales Europe: +41 43 588 34 92
Support Europe: +41 43 508 17 02

Screening Eagle UK Limited

Bedford i-Lab,
Stannard Way, Priory Business Park
Bedford, MK44 3RZ
United Kingdom
T +44 1234 923816

Screening Eagle Spain S.L.

Calle Pepita Barrientos 7
Office 14
29004 Málaga
Spain
T +34 9517 65584

Proceq Middle East

Sharjah Airport International
Free Zone, P.O.Box: 8365
United Arab Emirates
T +971 6 557 8505

APAC

Screening Eagle Singapore Pte. Ltd.

1 Fusionopolis Way
Connexis South Tower #20-03
138632 Singapore
Singapore
T +65 6331 4151

Proceq Trading Shanghai Co. Ltd.

Room 3A, No. 315
Guangyuan West Road
Xuhui District, Shanghai
China, 2000302
T +86 21 6317 7479

AMER

Screening Eagle USA, Inc.

117 Corporation Drive
Aliquippa, PA 15001
United States
T +1 724 512 0330

Screening Eagle Brazil Ltda.

Rua Paes Leme 136,
Pinheiros, Sao Paulo
SP 05424-010
Brasil
T +55 11 3083 3889



