

ProfoMeter PM600 and PM630 - Covermeter



Introduction

As direct successors of the Profometer 5+ S and Scanlog models the Profometer PM-600 and Profometer PM-630 continue the successful tradition that began 40 years ago. They are the sixth generation of the Profometer with all new technology.

The new Profometer uses the latest technology available to accurately locate steel reinforcing in concrete and measure cover (i.e. the depth of the bar). It also has the ability to the bar diameter of rebar in existing structures.

The Profometer PM-600/630 uses a new generation protected Profometer Touchscreen Unit. Both instruments offer unique on-site measuring and analysis functions, and real time control over the measurement procedure.

Applications

The Profometer PM-600/630 is the perfect on-site solution where the location, depth and size of rebar needs to be known. This may include

- Corrosion investigation
- Quality Control and Assurance of new concrete structures.
- Location of rebar for penetrations or coring

Measurement Principle

The Profometer PM-600/630 uses electromagnetic pulse induction technology to detect rebar. 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 nonconductive 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 to the quality and the strength of the material.

Features

- The housing is specially designed to be used onsite 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)
- Future proof investment through direct upgrade possibilities to upcoming Profometer products
- Digital probe interface for interference free communication with Profometer Touchscreen
- Improved resolution for better close reinforcing detection.
- All instruments conform to the following standards and norms: BS 1881 Part 204, DIN 1045 (Germany) and SN 505 262 (Switzerland).

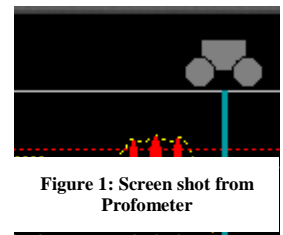


Figure 1: Screen shot from Profometer

Benefits

- Best rebar detection and data presentation in field environment
- Long working hours and access to real time data with preliminary processing
- Designed with modular concept means it is Compatible with upcoming Profometer products which makes the system expandable
- Strong in data quality as the signal output is digital
- Best resolution among counterparts in market
- Conform to most of the well-known international standards



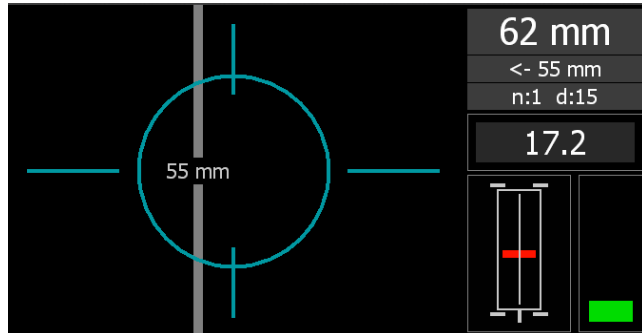
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Measurement Modes PM-600 & PM-630

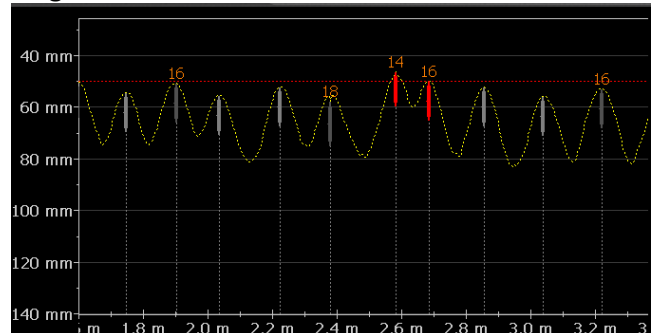
Locate Mode



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

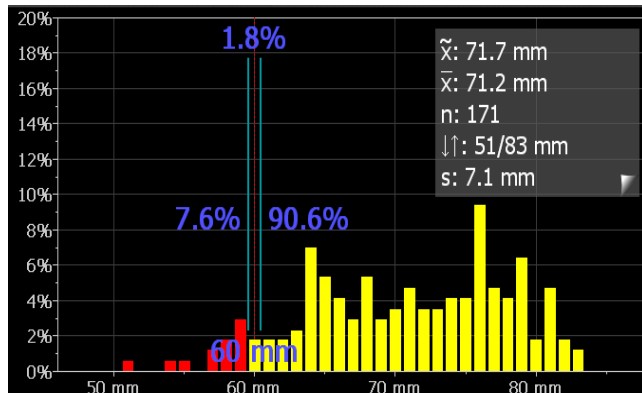
Measurement Modes PM-630 Only

Single-Line Scan



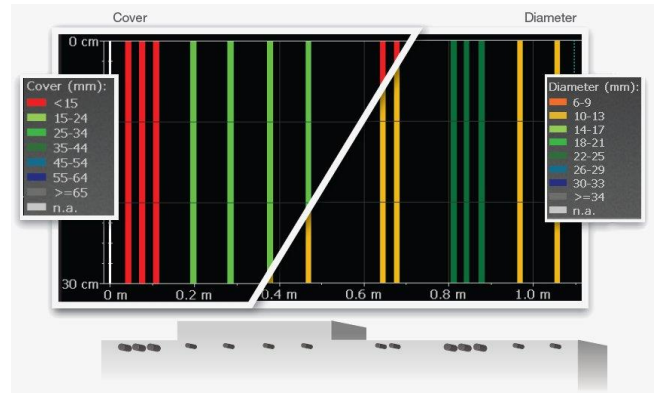
Linear scan of the cover across the first layer of rebar with diameter measurement. Color classification of cover and rebar diameter.

Statistics View



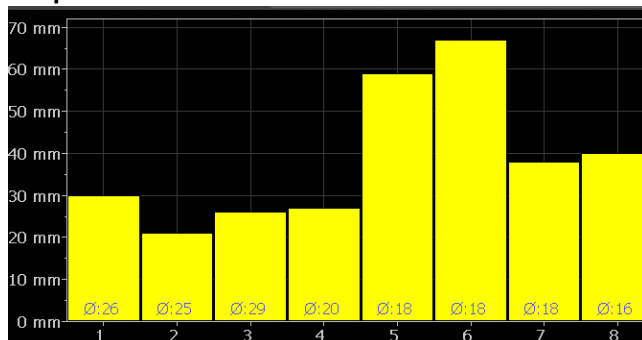
The statistics and the following snapshot views allow comprehensive review of the measured data directly on the screen. The statistics view presents a graphical overview of the distribution of cover measurements.

Multi-Line Scan



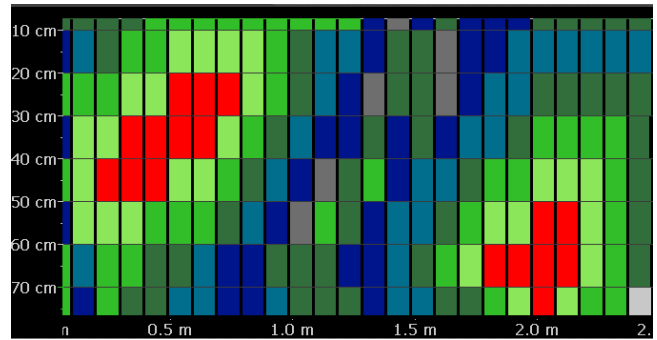
Multiple linear scans across the first layer of rebar over a rectangular area. Cover and diameter are shown in one view. Can review in Single-Line view.

Snapshot view



The snapshot view shows cover for each rebar with the diameter displayed as a number.

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 Canin+ half-cell potential measurements for corrosion analysis.



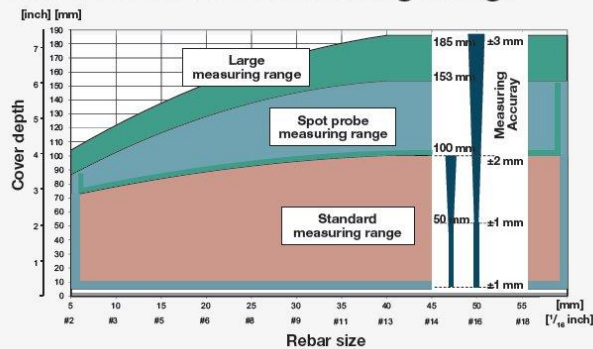
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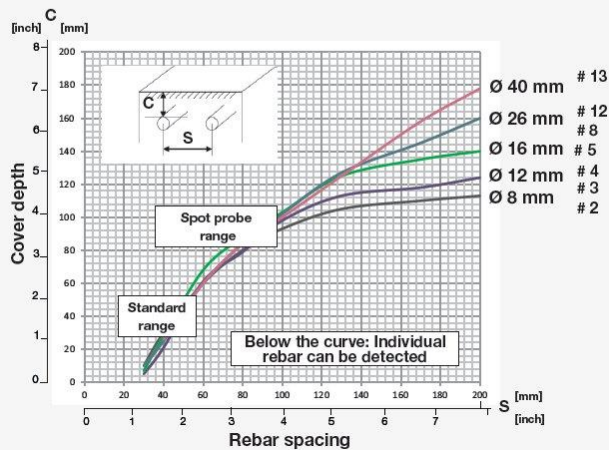
Measuring Range & Resolution

The Profometer Measuring Range



The Profometer- PM-600-630 has three measuring range from 10mm to 185mm and the measuring accuracy subjects to the specific measurement range working on.

Unsurpassed Resolution



Resolution is the ability to resolve closely spaced bars for accurate location. Resolution is controlled by both the depth and spacing of the reinforcing. The graph above indicates.

PM-Link Software

Manually recording the measurements of a test series is a time consuming business that can be an unnecessary source of errors. The recently launched PM-Link software makes note taking obsolete.

Data exchange can be done easily by connecting the Profometer touchscreen unit directly to the USB-port of the PC. The included Windows based software PM-Link allows the user to download, edit and present the data measured by the Profometer PM-600/630. The most common units and rebar dimensions are supported.

All data can be exported either in graphical format or as a CSV file to third party programs.

Profometer Probe



Figure 2: Profometer Measurement Probe

- Detachable probe cart for smooth measuring with on-board wireless path measurement.
- Control buttons directly on the probe
- Integrated Spot Probe for measurements in corners and where space is limited
- LED indicates proximity and location of rebar
- Positioning sensor records orientation of probe
- Sealed probe with waterproof connections
- Extension handle option

Form Supplied

Profometer PM-600

Profometer Touchscreen, universal probe with probe cart, probe cable 1.5 meter (5 ft), battery charger, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case

Profometer PM-630

Touchscreen, universal probe with probe cart, probe cable 1.5 meter (5 ft), battery charger, USB cable, chalk, DVD with software, documentation, carrying strap and carrying case

Optional Accessories

- Telescopic extension rod with probe cable 3m
- Probe cable 3m
- Probe cable 10m
- Profometer test block
- Quick charger (external)
- Battery complete
- Self-adhesive protective film for probe (set of 3)
- Chalk (set of 10)



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Technical Specification

Cover Measuring Range	Up to 185 mm
Cover Accuracy	± 1 mm to ± 4 mm
Measuring Resolution	Diameter/ cover controlled
Path measure accuracy	± 3 mm + 0.5% to 1.0% of measured length
Display	170 mm colour display 800 x 480 pixels
Diameter measurement range	Up to 63 mm
Diameter Measurement Accuracy	± 1 bar size
Memory	Internal 8 GB flash
Regional settings	Metric and imperial units Multiple language
Battery	Lithium Polymer 3.6V, 14 Ah
Battery Life	>8h (standard operation)
Mains	9V - 15V / 2.0A
Weight	Aprox. 1525 g w. Battery
Operating Temperature*	0° > 30° (Charging, On)* 0° > 40° (Charging, Off) -10° > 40° (Not Charging)
Humidity	<95% RH, noncondensing
IP Classification	IP54
Standards	CE certification

*charging equipment is for indoor use only (no IP classification)

About PCTE

PCTE have over 30 years experience in the measurement and testing of concrete. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

Other Equipment

The full Proceq range of equipment is available for insitu non-destructive concrete measurement, including Schmidt Hammers, Covermeters, Half Potentials, Ultrasonic Pulse Velocity, Resistivity and Permeability measurement. The Olson Instrument range includes the NDE360, CTG, Freedom Data PC and DAS as well as the resonance tester. The Geosense range of Geotechnical equipment includes VW Strain Gauge, Crack Meter, Load Cell, Piezometer and various readouts. The Force technologies supply with field Corrosion investigation and mapping devices and various corrosion monitoring probes. We also supply Intelli-Rock maturity, temp and humidity logging systems, MIRA- Ultrasonic Pulse Echo Tomography device, advanced real-time corrosion rate monitoring equipment, and Ground Penetrating Radar with different resolution and penetration requirements.

Portfolio and Applications Overview

Proceq's Cover Meter and Expert Rebar Tomography Systems allow comprehensive assessment of a concrete structure.

	Basic Cover Meters		Advanced Cover Meters		Expert Rebar Tomography (coming soon)	
	Profoscope	Profoscope+	Spot Profometer PM-600	Scan Profometer PM-630	Imaging Profometer PM-650	Corrosion
Rebar Localization	•	•	•	•	•	•
Cover Measurement	•	•	•	•	•	•
Diameter Estimation	•	•	•	•	•	•
Data Acquisition		•	•	•	•	•
Statistics		•	•	•	•	•
Snapshots			•	•	•	•
Single-Line Scan				•	•	•
Multi-Line Scan				•	•	•
Area Scan				•	•	•
2D-Imaging					•	•
Corrosion Data Fusion						•
Upgrade Possibilities	• →		• → • →		• →	

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