SUNBELT RENTALS

# Datasheet








0370 330 6021
www.sunbeltrentals.co.uk

profoscope

## Technical Information

| | |
|---|---|
| **Measuring Range** | |
| See graph on previous page for maximum range relative to bar diameter. | |
| **Power Supply** | |
| Power source | 2 x 1.5 V AA (LR6) batteries |
| Voltage range | 3.6 V to 1.8 V |
| **Current Consumption** | |
| Power on, backlight off | ~ 50 mA |
| Power on, backlight on | ~ 200 mA |
| Sleep mode | ~ 10 mA |
| Power off | < 1 µA |
| **Battery Lifetime** | |
| Backlight off | > 50 h |
| Backlight on | > 15 h |
| **Time Outs** | |
| Sleep mode | 30 s |
| Auto shut down | 120 s |
| **Environmental Conditions** | |
| Temperature range | -10° to 60° C (14° to 140° F) |
| Humidity range | 0 to 100% rH |
| Protection class | IP54 |
| **Standards and Regulations Applied** | |
| BS1881 part 204; DIN1045; SN 505 262; DGZfP B2 | |

## Ordering Information

| **Unit** | |
|---|---|
| **Part Number** | **391 10 000** |
|  Profoscope with carrying bag and accessories | Profoscope including standard accessories:<br><br>Packaging with integrated start-up test kit, batteries, canvas bag, carrying strap, chalk and product documentation |
|  Profoscope start-up test kit | |

## Accessories

| **Standard Accessories Delivered with the Profoscope** | |
|---|---|
| 391 80 100 | Canvas bag |
| 350 74 025 | Battery type AA |
| 391 80 110 | Carrying strap |
| **Optional Accessories** | |
| 391 10 121S | Self-adhesive protection covers (Set of 3) |
| 390 00 270 | Calibration test block |
| 391 80 140 | Integrated sliding caliper and flush pin gauge |
| 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.

| **Standard Warranty** | |
|---|---|
| • Electronic portion of the instrument: 24 months<br>• Mechanical portion of the instrument: 6 months | |
| **Extended Warranty** | |
| 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. | |

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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# Drilling Into Reinforced Concrete

## How does a Rotary Hammer and Carbide Drill Bit Avoid an Encounter with Rebar?

### Drilling Through Reinforced Concrete

Drilling through rebars is a costly business and it can be dangerous. If you hit a rebar while drilling with a rotary hammer and a carbide hammer bit, the carbide tip may crack, chip or even shatter. The drill bit may snap or shear the head from the body, no matter what the manufacturer claims. Cutting through load bearing rebars can severely weaken the concrete structure.
On the other hand, trying to avoid rebars can be a complicated and time consuming process. It is clear that anyone who works with reinforced concrete will benefit greatly if they can quickly and accurately determine where the rebars are located.

### Application

Rebar location needs to be fast and accurate. 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. These unique features combine to make the task of locating rebars a simple and efficient process, saving time and money for contractors and providing them with the information they need to do their job fast.

### Benefits to the Customer

**Versatility;** rebar location, cover measurement and rebar diameter measurement all provided by a single, fully integrated, cordless instrument.
**Simplicity of use;** the intuitive user interface means no time is wasted trying to interpret signal values.

### Customer Quote

“The Profoscope is very handy. Making a measurement is very simple.”
“In both of our deployments, measuring with the Profoscope allowed us to make a very good determination of the position of the rebars.”

Mr. Christian Brandes, concrete concepts Ingenieurgesellschaft mbH Brandes – Lay – Rucker – Munich
Proceq customer and consultant since 2006

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Made in Switzerland

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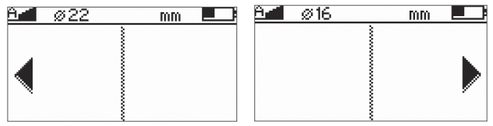
## Application

## Typically Useful for

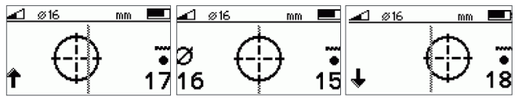
| | |
|---|---|
| • Rebar detection (location and orientation) | • General contractors, civil contractors, drilling specialists, electrical contractors |
| • Measurement of concrete cover depth to the rebar | • General contractors, civil contractors, civil engineers |
| • Measurement of rebar diameter when unknown or to confirm | • Educational institutes, building inspectors, civil contractors |
| • Checking for minimum cover | • Civil contractors, building inspectors |
| • Map out the rebar grid and cover for corrosion studies using the Proceq Canin+ corrosion analysis instrument | • Building inspectors |
| • Rebar grid analysis for structural analysis prior to structure (load) modifications | • Civil engineers, civil contractors |

## Real-time Visualization of Rebars

The Profoscope makes rebar location faster and simpler than ever before.
Symbols on the screen show the location of rebars within range.




A rifle scope shows the position of the rebar beneath the instrument in real time.




## Icon Based Menu System

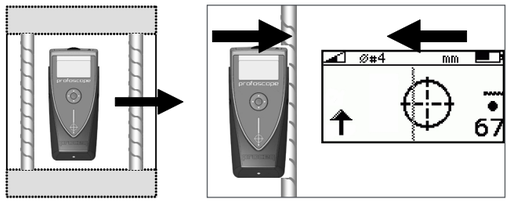
The menus are designed with intuitive icons to make the Profoscope language independent.

- Regional Setting
- Reference Rebar Diameter
- Measuring Range
- Audio Setting
- Neighboring Bar Correction
- Minimum Cover Alert

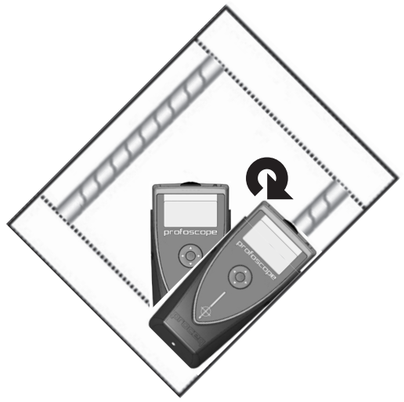
## Start-up Test Kit

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 in a comfortable, controlled environment to avoid wasting valuable time on site.

**Locating a rebar**




**Checking the orientation of a rebar**

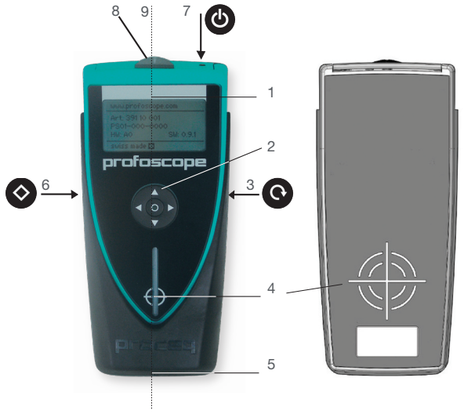


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## Fully-Integrated, Cordless Design



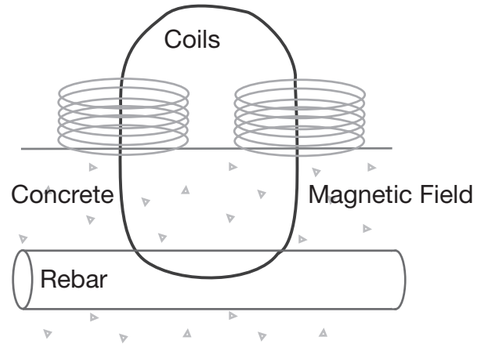

The Profoscope is designed to permit single handed operation. All functions can be programmed/activated using the two function keys and the navigation.
The instrument is compact, light and robust suitable for use on a construction site.

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

## The Measurement Principle

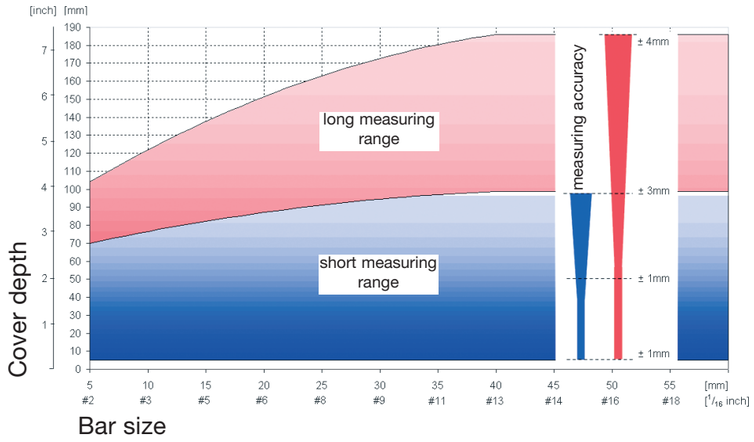
The Profoscope uses electromagnetic pulse induction technology to detect rebars. Coils in the probe are periodically charged by current pulses and thus generate a magnetic field. On the surface of any electrically conductive material which is in the magnetic field eddy currents are produced. They induce a magnetic field in opposite direction. The resulting change in voltage can be utilized for the measurement. The Profoscope uses different coil arrangements to generate several magnetic fields. Advanced signal processing allows:

- localization of a rebar
- localization of the mid-point between rebars
- determination of the cover
- estimation of the bar diameter
- determination of the orientation of a rebar




## 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.




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## LOCATIONS

**LONDON, HEATHROW**
**Sunbelt Rentals UK Test & Monitoring**
242-252 London Road, Staines, London TW18 4JQ
0333 122 3126
**www.sunbeltrentals.co.uk/find-a-depot/london-heathrow**

**REDCAR**
**Sunbelt Rentals UK Test & Monitoring**
Unit 5 Kirkleatham Business Park, Redcar TS10 5SQ
0370 330 6021
**www.sunbeltrentals.co.uk/find-a-depot/teesside**

**STOKESLEY**
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