

Wireless Sensor for Concrete Resistivity and Temperature

SmartBox™ is a compact wireless device for the measurement and monitoring of electrical resistance and temperature in fresh concrete.

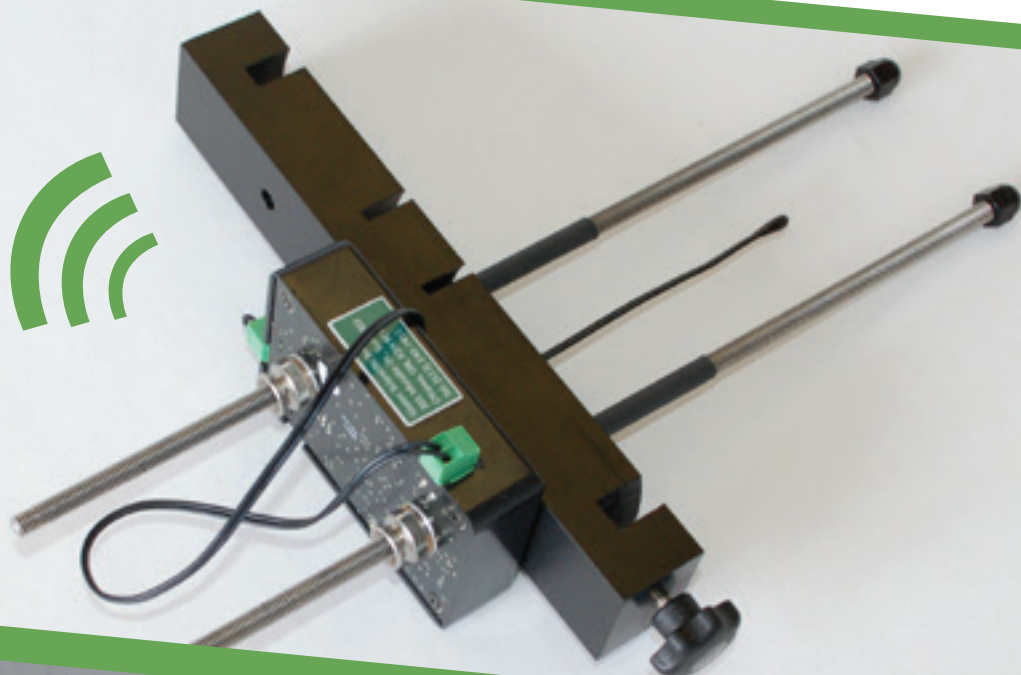
Overview

The electrical resistivity of fresh concrete has been shown to provide a good indication on the water content as well as setting and hardening of concrete. SmartBox™ provides an efficient tool for various research studies in these areas.

The continuous measurements are recorded on the SmartBox™ and can be downloaded using the mobile application on Android smartphone or tablet.

Application

- Water content in fresh concrete
- Prediction of setting time
- Setting time measurement
- Crack detection in concrete





Features

The SmartBox™ device features:

- Wireless technology
- Compact design
- Simultaneous measurement of electrical resistance and temperature
- Optimized frequency for fresh concrete
- Long battery life (up to 3 months)
- Mobile application for Android smartphone and tablet
- Easy data sharing
- Patent pending



Technical Specifications

General

Reading Range	Measurement Frequency	Accuracy	Measurement Time
1 - 3000 Ω	10 KHz	\pm 2%	<1s

Operating Conditions

Type	Value
Operating Temperature	-20 ~ 45°C (-4 - 113°F)
Operating Humidity	10 ~ 90%
Battery Charger Specification	Input: 100-240Vac (50-60Hz)/ Output: 5Vdc (500mA)
Dimensions of SmartBox™ Unit	88 x 55 x 22mm (3.5 x 2.2 x 0.9 inches)
Data Communication and Analysis	Free Android app