

KT-10 S/C and KT-10R S/C Magnetic Susceptibility/Conductivity Meters

Terraplus is pleased to announce that the KT-10R S/C Magnetic Susceptibility/Conductivity Meter with rectangular coil is available, in addition to the KT-10 S/C with circular coil. Both configurations allow users to simultaneously measure the magnetic susceptibility and conductivity of rock samples or drill cores and include a host of features such as the ability to input depth correlation information, a correction for split and full cores, a data management/visualization software and the GeoVision Android App.

Major Benefits

- **Three Instruments in One**

The KT-10 S/C and KT-10R S/C are three-in-one instruments that can be used in three different configurations:

- Magnetic susceptibility only (like a standard KT-10/KT-10R v2)
- Absolute Conductivity only (like a KT-10 C)
- Magnetic susceptibility and conductivity simultaneously

- **New Rectangular Coil Available**

The KT-10 S/C is now available in two different coil configurations: the KT-10R S/C with Rectangular Coil or the standard KT-10 S/C with Circular Coil. The rectangular coil is beneficial for measuring core samples with small diameters as they do not need to be removed from the core box for measurement. The circular and rectangular coils are not interchangeable.

- **Wide Range Absolute Conductivity Meter**

Both configurations have been calibrated using a multi-point algorithm to ensure accurate measurements between inductive and galvanic methods. They can measure conductivities from 1 to 100,000 S/m, while maintaining a sensitivity of 1 S/m.

- **High Magnetic Susceptibility Sensitivity**

The KT-10 S/C and KT-10R S/c have a maximum sensitivity of 1×10^{-6} SI Units on smooth surfaces for magnetic susceptibility measurements.

- **Depth Correlation**

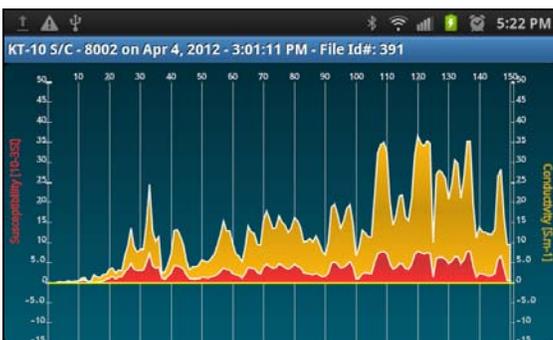
The KT-10 S/C and KT-10R S/C's large internal memories allow the user to input information to correlate every core measurement to its depth. The user can enter information such as borehole I.D., box number, the number of rows in a box, start and end depths, as well as depth intervals. In the Scanner mode, depth intervals can be recorded with the push of a button. All readings between depth intervals are interpolated into the data for reference.

- **Split and Full Core Corrections**

The KT-10/KT-10R v2 includes a real time diameter correction for both split and full cores. The user can select from a range of drill rod diameters (AQ, BQ, NQ, HQ and PQ) or non-standard ones from 2.4 to 12 cm.

- **Measure in SI or CGS and S/m or $\Omega.m$ Units**

Users can obtain magnetic susceptibility measurements in either SI or CGS units; while conductivity measurements can be in either S/m or $\Omega.m$ units.



Additional Benefits

- **Upgrades and Support Available via the Internet**

The KT-10 S/C and /KT-10R S/C can be both upgraded and supported remotely through the internet. Users are also able to download the latest firmware upgrades to receive new features as they become available. The KT-10 S/C can be upgraded into a KT-10 Plus S/C, KT-10 S/Cx, or a KT-10 Plus S/Cx allowing the user to read both magnetic susceptibility and conductivity measurements simultaneously. The "x option" (or extended measurement range) will increase the meter's conductivity measurement range to 1 - 200,000 S/m.

- **Large Memory**

The KT-10 S/C and KT-10R S/C feature a 4 GB internal memory that can store up to 4,000 total records. Users can take up to 4,000 scanner measurements with up to 480 data points per record, or 4,000 discrete measurements with 120 seconds of voice notes per reading. Discrete and scanner records can be combined to total 4,000.

- **GeoVision Android App for Real Time Profiling**

The GeoVision Android App is included with the KT-10 S/C and KT-10R S/C. GeoVision allows users to display real time scanner profiles on an Android operated smart phone or tablet. It can also be used to display real time animated graphical outputs while scanning and as a memory data browser to present field measurements/records. Additional text notes can be added to the current or previously stored data with an Android smart phone or tablet. Android phone or tablet is not included with the GeoVision App.

- **Quality Control (QC) Parameters**

The KT-10 S/C and KT-10R S/C provide users with the ability to assess data quality. Along with the measurement results, a user can obtain data averages and standard deviation values in measure mode, or data averages and maximum values in scanner mode.

- **Uneven Surface Measurements**

The KT-10 S/C can be used with a pin for uneven surface measurements, or without a pin when applied on a flat surface. It also automatically corrects and displays the true magnetic susceptibility. The KT-10R S/C is not supplied with a pin as one of its main uses is for measuring core samples.

- **Variable Audio Capability**

The KT-10 S/C and KT-10R S/C's speaker allows the user to monitor the variations in the measurements with a variable audio sound while in Scan mode. The voice recorder also allows for the recording and replaying of voice messages through the instrument's speaker.



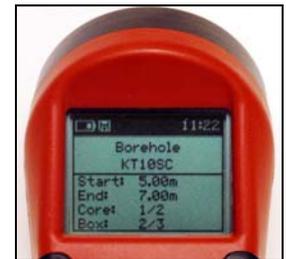
Readings (SI, S/m), Average & Standard Deviation



Readings (S/m, SI), Average & Standard Deviation



Readings (CGS, Ω.m), Average & Standard Deviation



Depth Correlation Information

- **Bluetooth and USB Connectivity**

The KT-10S/C and the KT-10R S/C come standard with both Bluetooth and USB connectivity. Bluetooth capabilities allow users to download the meter's data wirelessly and/or connect to a Bluetooth enabled GPS unit to store GPS coordinates along with the readings. As an option, one can also pair the KT-10 S/C and the KT-10R S/C with an Android operated smart phone or tablet to obtain a real time scanner profiles with the GeoVision App.

USB communication is also available for transferring measurements and voice comments from the meter to a PC, as well as firmware upgrades and parameter settings.

- **Large LCD Display**

The KT-10 S/C and KT-10R S/C are equipped with a high contrast LCD display which serves as the interface for operating the meters. The LCD also displays the measurement results, icons and graphical menus which are used to interactively navigate the meters' different functions.

- **Rugged and Reliable**

The KT-10 S/C and KT-10R S/C meet IP65 standards and are therefore protected against dust, rain or conditions with high humidity.

GeoView PC Interface Software:

- Data Organization**

GeoView is a multi-platform software that allows users to organize their KT-10 S/C or KT-10R S/C data by date and serial number. It also facilitates the transfer of data from the instrument to a personal database for further correlation and interpretation. GeoView is compatible with all Windows 32 or 64 bit operating systems.

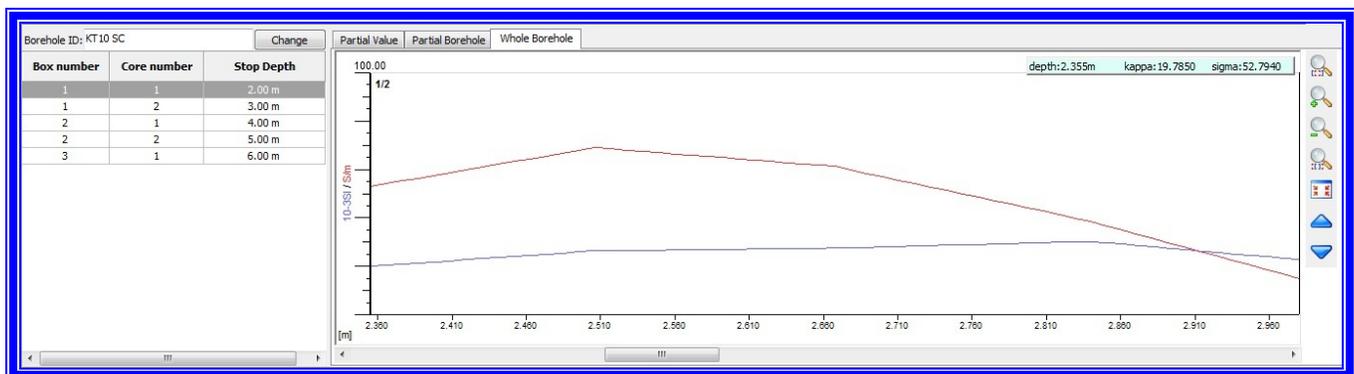
As presented below, averaged readings are grouped together with records (containing date, time, value, voice notes and optional GPS positions) in one convenient location. Users can also add new column headers to enter additional information specific to the data collection.

Id	Time	Kappa/Conc.	Average susc. +/- std	Sigma/Conc.	Average cond. +/- ...	Information	Voice...	Latitude	Longitude	Altitude
402	2:14:55 PM	0.0000 [10-3SI]	0.0060 +/- 0.0090	0.0000 [S/m]	0.0000 +/- 0.0000					
404	2:17:14 PM	0.1070 [10-3SI]		0.3420 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
405	2:17:26 PM	98.2130 [10-3SI]		300.4420 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
406	2:17:32 PM	125.2730 [10-3SI]	74.5310 +/- 65.8580	376.1280 [S/m]	225.6370 +/- 198.7...			43o51'23.35"N	79o23'30.02"W	246m
407	2:17:46 PM	0.0780 [10-3SI]		0.2500 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
408	2:17:52 PM	0.0540 [10-3SI]		0.1720 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
409	2:17:59 PM	0.0000 [10-3SI]		6.3340 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
410	2:18:08 PM	7.6300 [10-3SI]		24.2860 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
411	2:18:14 PM	5.6740 [10-3SI]		18.0370 [S/m]				43o51'23.35"N	79o23'30.02"W	246m
412	2:18:22 PM	5.7080 [10-3SI]	3.1910 +/- 3.5190	18.1860 [S/m]	11.2110 +/- 10.3150			43o51'23.35"N	79o23'30.02"W	246m
413	2:18:52 PM					Scanner		43o51'23.35"N	79o23'30.02"W	246m

- Data Visualization**

A numerical display allows users to quickly review the field data, while a graphical display aids in the interpretation of scanner data.

As shown below, the scanned data is displayed in a graphical mode. The use of markers can assist operators to orient the readings to a physical location.



KT-10 S/C and KT-10R S/C Options:

- **Upgrade to a KT-10 Plus S/C, KT-10 S/Cx or KT-10 Plus S/Cx**

The KT-10 S/C and KT-10R S/C are upgradable to a KT-10 Plus S/C for measuring iron ore samples and cores up to 10 SI units. With this extended range and pre-installed calibration curve, it is possible to obtain the concentration estimate of iron ore directly from the instrument. Both meters can also be upgraded to a KT-10 S/Cx, which increases the meter's conductivity measurement range to 1 - 200,000 S/m. Users can also upgrade the meters to a KT-10 Plus S/Cx to increase the measurement range for both magnetic susceptibility and conductivity. All upgrades can be performed via the internet using the GeoView software with a PC.



- **Conductivity Reference Pads**

Three reference pads with different conductivity ranges (low, medium and high) are available for measurement verification. Although there are three different ranges, each pad has a number of common parameters:

- High homogeneity of conductive elements
- Only diamagnetic materials are used eliminating magnetic susceptibility influence
- Use of a sealing compound to block transfer of humidity
- Optimal pad dimensions to reduce size effect
- Smooth surface to optimize contact and ensure high accuracy of readings

The low range pads are made of semi solid gels, while the middle and high range pads are of a proprietary mixture of ceramics. Each pad has been tested independently using different methods for measuring conductivity (AC and DC bridges plus impedance bridges).

- **Magnetic Susceptibility Calibration Pad**

A magnetic susceptibility standard is now available as an option for the KT-10 S/C. The standard is manufactured from a suitable Mn-Zn Ferrite compacted with mudstone. Its purpose is to confirm that the meters are operating properly or, to recalibrate the instrument.

Nominal susceptibility will vary between standards.

Typically	34×10^{-3} SI
Diameter	145 mm
Height	70mm
Density	2.2g/cm ³
Weight:	2.65kg



Pad Range:	Low	Medium	High
Colour:	Green	Yellow	Red
Typical Reading (S/m):	9	700	85,000
Diameter (mm):	152	152	152
Height (mm):	50	50	50

SPECIFICATIONS

Sensitivities:	Susceptibility: 1×10^{-6} SI Unit Conductivity: 1 S/m		
Measurement Range:		<i>Standard</i>	<i>Optional</i>
	Susceptibility	0.001×10^{-3} to $1,999.99 \times 10^{-3}$ SI Units	0.001×10^{-3} to $9,999.99 \times 10^{-3}$ SI Units
	Conductivity	1 to 100,000 S/m	1 to 200,000 S/m
Operating Frequency:	10 kHz		
Measurement Frequency:	20 readings per second (in Scan mode, 5 readings averaged together and 4 readings /second stored).		
Display:	High contrast LCD graphic display with 104 x 88 pixels.		
Memory:	4 GB: 4,000 Total Records Stored ** - 4,000 scanner measurements with up to 480 data points per record (total of 1,920,000 individual data points) or - 4,000 discrete measurements with 120 seconds of voice notes per reading. <i>(Discrete and scanner records can be combined.)</i>		
Control:	One button with up / down functionality.		
Data Input/Output:	USB and Bluetooth (GPS/phone pairing).		
Power Supply:	2 'AA' batteries (alkaline or rechargeable).		
Battery Life:	Up to 3,000 measurements without voice recorder (with alkaline batteries).		
Operating Temperature:	-20 °C to 60 °C		
Dimensions:	200mm x 57mm X 30mm		
Coil Dimensions: ** ** Coils are not interchangeable	Circular Coil : Diameter 65 mm		
	Rectangular Coil: Length 65 mm - Width 32 mm		
Weight:	0.30 kg		
GeoView PC Software	Supports all Windows 32 or 64 bit operating systems		
GeoVision App	Android operating system (OS) must be version 2.3.3 or higher.		

Specifications subject to change without notice # 20 08-13

Standard Configuration

- KT-10 S/C Console and Wrist Strap
- Two Pins (not supplied with KT-10R S/C)
- GeoVision Android App
- Two Rechargeable AA Batteries and Charger
- Car Charger for Batteries
- USB Cable
- GeoView Software CD
- Operations Manual and Quick Start Guide
- Small Pouch with Foam Insert
- Rugged shipping case

