

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

Terraplus is pleased to announce that the KT-10R Plus S/C Magnetic Susceptibility/Conductivity Meter with rectangular coil is available, in addition to the KT-10 Plus S/C with circular coil. Both configurations allow users to simultaneously measure the magnetic susceptibility and conductivity of rock samples or drill cores. Both configurations are also equipped with a host of features that include an extended magnetic susceptibility measurement range, the ability to present users with an iron ore concentration estimate, input depth correlation information and a correction for split and full cores.

Major Benefits



- **Four Instruments in One**

The KT-10 Plus S/C and KT-10R Plus S/C are four-in-one instruments that can be used in the following configurations:

- Magnetic susceptibility only (like a KT-10 v2)
- Direct iron concentration measurement estimates (like a KT-10 Plus v2)
- Conductivity only (like a KT-10 C)
- Magnetic susceptibility and conductivity simultaneously

- **New Rectangular Coil Available**

The KT-10 Plus S/C is now available in two different coil configurations: the KT-10R Plus S/C with Rectangular Coil or the standard KT-10 Plus 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.



- **Direct Iron Ore Concentration Measurement Estimates**

Direct iron ore concentration measurement estimates can be obtained from the meter's display by using the pre-installed calibration curve.

- **High Magnetic Susceptibility Sensitivity and Dynamic Range**

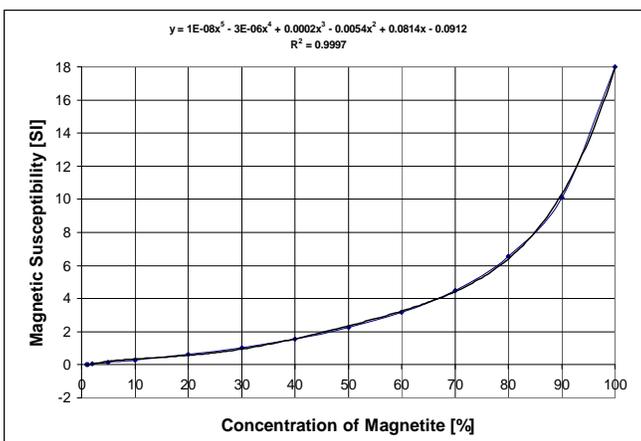
The KT-10 Plus S/C and KT-10R Plus S/C have a maximum sensitivity of 1×10^{-6} SI Units on smooth surfaces for magnetic susceptibility measurements. They are also equipped with an increased measurement range of up to 10 SI units, allowing users to measure and analyze samples with a high magnetite content.

- **Wide Range Absolute Conductivity Meter**

The KT-10 Plus S/C and KT-10R Plus S/C 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.

- **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.



More Benefits

- **Depth Correlation**

The KT-10 Plus S/C and KT-10R Plus S/C feature large internal memories that 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 Plus S/C and the KT-10R Plus S/C 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 Ω .m Units**

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

- **Fast and Accurate Scanning**

The KT-10 Plus S/C and KT-10R S/C scan **20** readings per second and stores 4 averaged readings during the same period.

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

The GeoVision Android App is included with the KT-10 Plus S/C and KT-10R Plus 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.

- **Pre-Installed Calibration Curve**

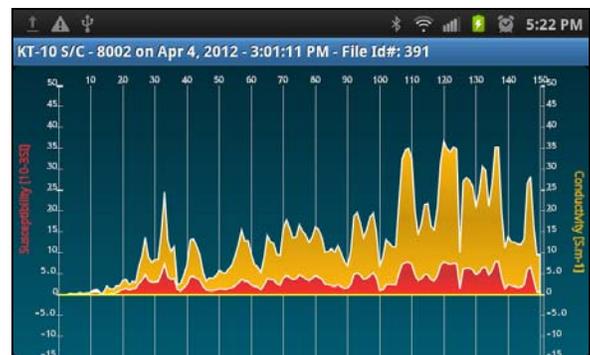
One calibration curve is standard in the KT-10 Plus S/C and KT-10R Plus S/C's firmware. This calibration curve is based on magnetite with different concentrations.

- **Programmable Calibration Curve Capability**

Users can also program additional calibration curves which are specific to the samples and cores being measured. By taking a number of magnetic susceptibility measurements from a range of samples with known concentration values, users can program their own calibration curves using the GeoView Software. The new calibration curves can then be transferred to any KT-10 Plus S/C or KT-10R Plus S/C.

- **Flexibility in Transferring Calibration**

Users can transfer their own calibration curves between KT-10 Plus S/C and KT-10R Plus S/C meters with the use of the GeoView Software.



Other Benefits

- **Large Memory**

The KT-10 Plus S/C and KT-10R Plus 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.

- **Quality Control (QC) Parameters**

The KT-10 Plus S/C and KT-10R Plus S/C provides 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 Plus 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.

- **Flexible PC Interface**

Both configurations include **GeoView**, a multi-platform software which allows the user to download and visualize the data. **GeoView** can also play back the voice notes stored along side the readings, change the meters' settings, transfer the data to a spreadsheet and view or export GPS paths into a Google Earth compatible format.

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

The KT-10 Plus S/C and the KT-10R Plus 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 Plus S/C and the KT-10R Plus S/C can be upgraded to a KT-10 Plus S/Cx. The "x option" (or extended measurement range) will increase the meter's conductivity measurement range to 1 - 200,000 S/m.

- **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.



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



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



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



Depth Correlation Information

- **Variable Audio Capability**

The KT-10 Plus S/C and KT-10R Plus 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.

- **Large LCD Display**

The KT-10 Plus S/C and KT-10R Plus 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.

- **Small and Easy to Use**

The KT-10 Plus S/C and KT-10R Plus S/C's compact size and ergonomic design make it easy to carry and operate. Its interactive menu facilitates the operation of the instrument.

- **Rugged and Reliable**

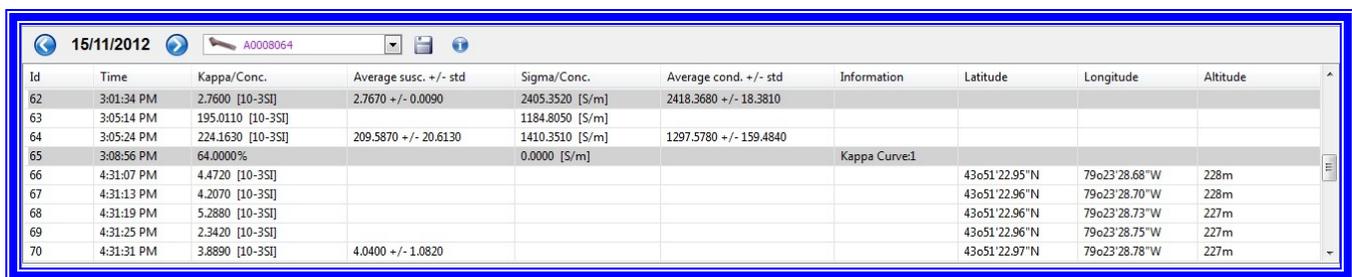
The KT-10 Plus S/C and KT-10R Plus S/C meet IP65 standards and are therefore protected against dust, rain or conditions with high humidity.

GeoView PC Interface Software:

- Data Organization**

GeoView is a multi-platform software that allows users to organize their KT-10 Plus S/C or KT-10R Plus 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.

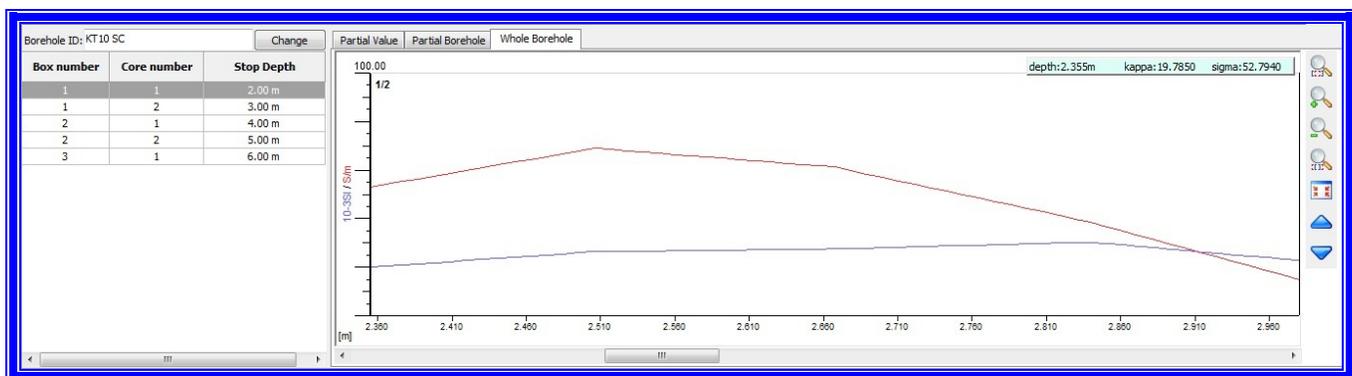


Id	Time	Kappa/Conc.	Average susc. +/- std	Sigma/Conc.	Average cond. +/- std	Information	Latitude	Longitude	Altitude
62	3:01:34 PM	2.7600 [10-3SI]	2.7670 +/- 0.0090	2405.3520 [S/m]	2418.3680 +/- 18.3810				
63	3:05:14 PM	195.0110 [10-3SI]		1184.8050 [S/m]					
64	3:05:24 PM	224.1630 [10-3SI]	209.5870 +/- 20.6130	1410.3510 [S/m]	1297.5780 +/- 159.4840				
65	3:08:56 PM	64.0000%		0.0000 [S/m]		Kappa Curve1			
66	4:31:07 PM	4.4720 [10-3SI]					43o51'22.95"N	79o23'28.68"W	228m
67	4:31:13 PM	4.2070 [10-3SI]					43o51'22.96"N	79o23'28.70"W	228m
68	4:31:19 PM	5.2880 [10-3SI]					43o51'22.96"N	79o23'28.73"W	227m
69	4:31:25 PM	2.3420 [10-3SI]					43o51'22.96"N	79o23'28.75"W	227m
70	4:31:31 PM	3.8890 [10-3SI]	4.0400 +/- 1.0820				43o51'22.97"N	79o23'28.78"W	227m

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

- **Upgrade to Extra High Conductivity**

The KT-10 Plus S/C and KT-10R Plus S/C have a standard measuring range of 1 to 100,000 S/m. As an option, this range can be increased to 200,000 S/m. This KT-10 Plus S/Cx and KT-10R Plus S/Cx upgrade can be performed via the internet using the GeoView software with a PC.



- **Magnetic Susceptibility Calibration Pads**

Two magnetic susceptibility standards are now available as options for the KT-10 Plus S/C. The standards are manufactured from a suitable Mn-Zn Ferrite compacted with mudstone. Their purpose is to confirm that the meters are operating properly, or to recalibrate them in both low and high magnetic susceptibility environments.

Nominal susceptibility will vary between standards.

	<u>Low</u>	<u>High</u>
Typically	34×10^{-3} SI	2500×10^{-3} SI
Diameter	145 mm	145 mm
Height	70mm	70mm
Density	2.2g/ccm	2.2g/ccm
Weight:	2.65kg	2.65kg
Colour:	Orange	Purple

- **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).



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:	Susceptibility: 0.001×10^{-3} to 9999.999×10^{-3} SI Units	
	Conductivity: 1 to 100,000 S/m	Optional Extended range: 1 to 200,000 S/m
Operating Frequency:	10 kHz	
Measurement Frequency:	20 readings per second in Scan mode storing 4 averaged readings per second.	
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. Discrete and scanner records can be combined.	
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 2,000 measurements without voice recorder while using rechargeable batteries (3,000 measurements with alkaline batteries).	
Operating Temperature:	-20 °C to 60 °C	
Dimensions:	200mm x 57mm X 30mm	
Coil Diameter: **	Circular Coil: Diameter 65 mm	
	Rectangular Coil: Length 65 mm - Width 32 mm	
Weight:	0.30 kg	

Specifications subject to change without notice # 21-08-13



Standard Configuration

- KT-10 Plus 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

**** Coils are not interchangeable**