



E-MILLIOHM USER MANUAL

MANUAL / Reference : MAN_E-MILLIOHM_EN_V1.0





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Revision of the manual

Due to software updates, your experience of the software interface (including but not limited to software features, user interfaces, and interaction experiences) may differ from the interface presented in this manual. The software interface is subject to change.

ÉDITION / REVISION	REFERENCE	DATE	UPDATES PARTS
First edition	MAN_E-MILLIOHM_EN_V1.0	Nov. 2024	-

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ABOUT //////////////

E-XTEQ is a battery diagnostic tool and equipment manufacturer with a broad spectrum of knowledge and understanding of battery technology for Industrial, OEM and Aftermarket Maintenance including EV/HEV applications.

Our mission is to be a passionate global leader of innovative measurement solutions by providing premium testing equipment and unsurpassed services to our valued customers and partners.



The purpose of the E-XTEQ E-MILLIOHM bond test unit is to measure the resistance between each test point (metallic component) and the vehicle's main ground point to ensure that all metallic parts of the EV that could potentially carry electrical current are properly connected to the vehicle's electrical ground.

This prevents the buildup of static electricity and ensures that in case of a fault, electrical currents are safely dissipated.

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Safety Guidelines

For your security, please read the safety guidelines carefully.

This section indicates the areas that need to be protected in order to prevent harm to the user of this equipment, damage to property and to enable proper use of this product.

SAFETY ADVISORY //////////////**Recommendations for electrical testing instruments**

Precautions on the test environment

- Let the test area dry and clean, free from explosive gas.

Precautions on the operators

- E-XTEQ recommends that the operators using the instruments should have a suitable qualification and training with respect to the work bench requirements.

General precautions

- Read the users manual before using the instrument,
- All electrical connections coming to the instrument must be equipped with a safety system (fuse, circuit breaker..) adapted to the needs and adhering to the norms,
- To avoid electromagnetic interference, the cable connections to the instrument should be less than two meters in length,
- The electrical main supply must absolutely have proper connection to the earth,
- Disconnect the electrical connections to the equipment for maintenance,
- Do not open the instrument under power voltage,
- Avoid water spillage in the direction of the instrument,
- E-XTEQ is at your disposal for any further information concerning the use of the instrument under maximum safety conditions.



We would like to bring to your attention that E-XTEQ will not be held responsible for any accident connected to the improper use of the instrument, to the work bench or to the lack of compliance with safety rules.

E-XTEQ Company is free from any responsibility for any adjustment of its instrument which would not have been done by its own technicians.

“We are at your disposal for any information concerning the use of the device under maximum safety conditions”.

E-XTEQ Team



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Measurement Principle 1/2

DEFINITION //////////////

The E-MILLIOHM instrument is a milliohmmeter designed to test metallization encountered in electric vehicles. This quality test controls the mechanical assembly of each part who constituting a battery pack.

For this, he characterized the control of the junction between two or more parts using the principle of measuring electrical continuity.

Each branch is then represented by an ohmic resistance which must be as low as possible.

PRINCIPLE //////////////

The measurement principle is to circulate a calibrated continued current 0.1A, 1A or 10A between any two points A and B materializing the resistance to measure RX. Then it proceed to read the potential between these two points, the measured voltage at terminals of the resistance is proportional to the current passing through, according to the ohm's law:

$$U = RI$$

To realize these measurements the instrument uses:

- A constant current generator supplied with a 12 V Lithium Polymer battery.
- Two probes with doubles contacts for the "4 wires" measurement:
 - A contact (point) to establish the current in the resistance to measure.
 - Another contact (point) to measure the potential difference through an instrumentation amplifier.
- A voltmeter allows reading the voltage kept at the amplifier output.



Note: the three measurement currents are: 10 A for the metallic and aluminium parts, 1 A and 0.1 A for the composites materials parts.



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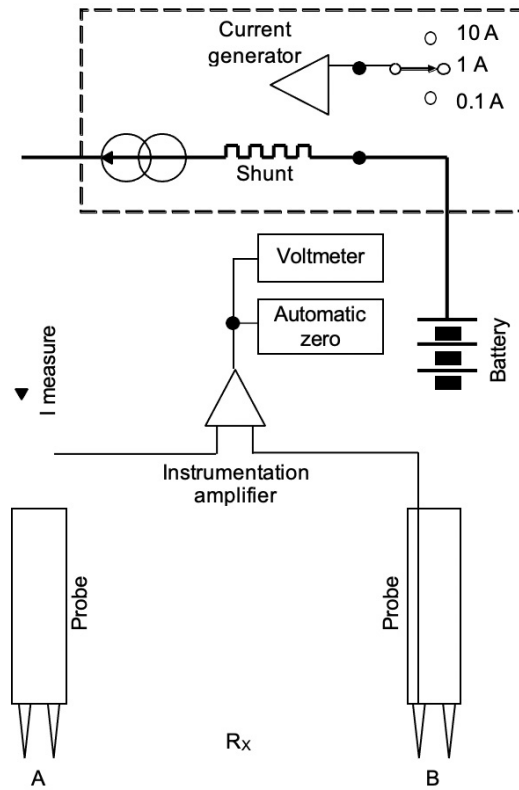
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GENERAL DIAGRAM //////////////



AUTOMATIC ZERO //////////////

During its measurement cycle, the instrument carried out automatically an auto-zero measurement to eliminate undesirables' thermo-electrics effects in the measurement circuit and carried out the measurement zero of the instrument compensating the offset errors in the measurement amplifier.

Then, at each measurement, the instrument memorizes the spurious external voltage of the thermocouple present in the RX terminal before the passage of the current in order to subtract it from its new value obtained during the passage of the current.



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APPEARANCE //////////////

The E-XTEQ E-MILLIOHM case is made with two anodized aluminum parts assuring durability and lightness. The case is surrounded by two rubbers to protects the device from falls and avoid marking the shocked part.



INSTRUMENT INSTALLATION //////////////

BATTERY BLOCK / SUPPLY



The E-XTEQ E-MILLIOHM is running with a 12 V DC battery. The battery has a LED light for charge state:

- Red: The battery is charging
- Green: battery full



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To remove the battery from the device, proceed as follows:

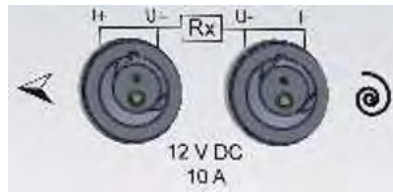
1) Press the burst above to unlock

2) Turn the battery outwards

To reinstall the battery, do the same operation in the reversal way.

ELECTRICS CONNECTORS

Test accessories connectors



The test accessories, probes, Kelvin probes pliers, etc. are connected on these two plugs.

There are two connectors on the front face and two on the rear face that the user will choose following the use.

If a spool of wire is used, it must connect this spool to the plug identified by



Note: if a winding is used and if it's partially or not unwound, it's possible that the device has some measurements problems and displays the "Continuity U fault" message. In this case, it's strongly advisable to configure the instrument in the "Inductive" mode. See the chapter 3, paragraph 5.1.6 "Measurements modes".

USB Connector (front and rear faces)



Allows the connection to a PC. Allows the supervision with the WinE-XTEQ300 software:

- Configuring (save / restore the parameters in a PC)

- Duplicate an instrument

- Up dating the device

- Results recovery for archiving and statistic analysis with spreadsheet software's.



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KEYBOARD PRESENTATION //////////////

ON / OFF KEY

KEY	FUNCTION
	<p>Instrument off: this key switch on the device.</p> <p>Instrument on: this key switch off the device by long pressing (more than 3 seconds).</p>

NAVIGATION KEYS

KEY	FUNCTION
	Move up or increase the numeric values.
	Move down or decrease the numeric values.
	<p>ENTER key</p> <p>Quick press: Enter in the special cycle's menu, parameter entering and parameter validation.</p> <p>Long press (3 seconds): Enter in the parameters and configuration menu.</p>
	<p>"C" for CANCEL</p> <p>Return to the previous function or menu. Escape without parameter's modification.</p>

START CYCLE KEY


KEY	FUNCTION
	<p>START key</p> <p>Starting a measurement cycle.</p>



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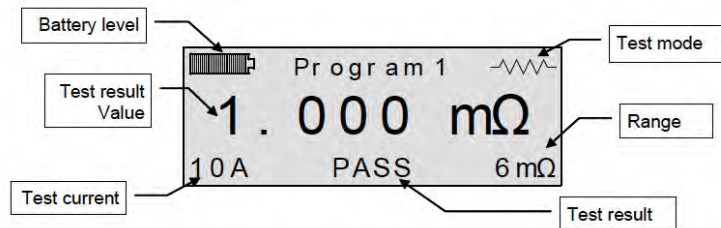
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LCD DISPLAY //////////////

To display the measurement results and the parameters to adjust.

Display detail.

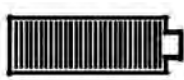




FUNCTIONS OF THE INDICATOR LIGHTS //////////////

The  symbol represents an indicator which is lit.

 Pass part light.	 Fail part light.	 Alarm.
---	--	---

BATTERY LEVEL //////////////

KEY	FUNCTION
	Battery full.
	When the display indicates an almost empty battery level, it is better to recharge.
	Empty battery, recharge it (flashing) the instrument will turn off.



Note: if the instrument doesn't turn on, before any service in the device, recharge completely the battery or replace it with a full one.



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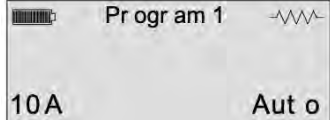
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TURN ON THE DEVICE //////////////

The E-MILLIOHM is running with its integrated battery.

KEY	FUNCTION
 Switches on the instrument	
Check the battery level	
The instrument waits a start	



Note: if the device doesn't turn on, charge completely the battery or replace it with a full one.



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Password Erase

The deletion of the password of the Lock / Unlock function needs to know the current password. After deletion, the current password becomes the password by default (0000).


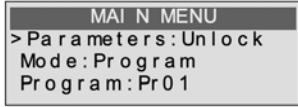




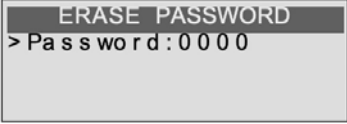

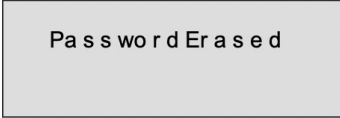
KEY	FUNCTION
Press and hold the  key (three seconds) to enter into the main menu, select the Parameters : Lock or Parameters : Unlock function.	
To delete the password, select the Erase function.	
The instrument asks the current password, enter the 4 numbers by using the  ,  and  several times.	
When the password is entered, validate with the  key, the instrument displays Password Erased	



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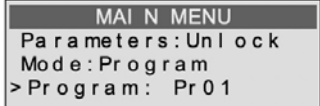


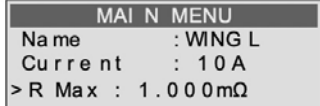



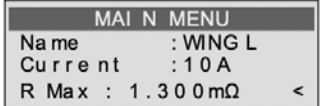
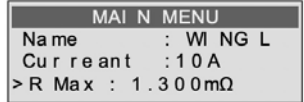
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PARAMETERS ADJUST //////////////

Now adjust the test cycle parameters.

The process to adjust the parameters is the same for all.

KEY	FUNCTION
Press and hold the  key (three seconds) to enter into the main menu.	
By using the  key, move down up to the test parameters and validate with the  key, the cursor goes on the right side to confirm the parameter edition.	
By using the  and  keys, adjust the parameter to the hope value and validate with the  key, the cursor back to the left side of the display.	
Adjust the others parameters by using the same process.	

PARAMETERS TO ADJUST

Program name (NAME)

This function allows personalizing a program, for example to identify it with the part to test name. Enter 7 alphanumeric characters maximum.

Measurement current (CURRENT)

The instrument had three measurements current available, the value to use is based on the material of the parts to control:

- 10 A for the metallic parts,
- 1 A and 0.1 A for the composites material parts.

Maximum reject (R Max.)

This parameter defines the threshold above the test part is considered as fail. If the measured value exceeds this value, the test is fail.



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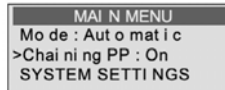


Note: the measurement result must be between the minimum reject and the maximum

Pass part chaining

This function appears only in "Sequence" mode. It allows shifting automatically to the next step of the sequence, if the measurement of the current step is declared pass.

Validate by "On" the "Chaining PP" function, when the measure of the step is pass, the device shift automatically to the next step.




Serial Number 2

This parameter is available only with WinE-XTEQ300 software. It allows distinguishing devices. This serial number will appear in the frame of the results file.

PARAMETERS ADJUST //////////////

The measurement is triggered by:

- Simple accessories contact on the part to test (current detection). If the Auto Start function is on.

Press the  key on the instrument front face.

During the measurement, an hourglass is displayed.



Note: if the Buzzer function is validate, a beep is ringing during the test time.



The test stops and the measurement result is displayed.



Note: if the device detects a fail part or an alarm, when the Buzzer function is activated, a series of short beeps are ringing.

Auto-test

The instrument is fitted with an auto-test (internal test) to check the test current value. This test is carried out with a precision resistance integrated within the instrument.



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TEST STOP //////////////

The resistance measurement stops by:

- A contact cut from one of the probes (current passing cut).
- Automatically at the end of the test.

Measurement Fail detection

An error message notifies the operator for all fail values recorded due to cuts in one of the two loops of the measuring circuit during the test (rebounds contacts, probes press too low, etc.).



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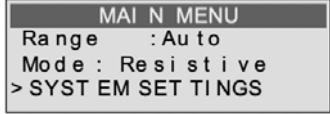
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SYSTEM SETTINGS //////////////

The SYSTEM SETTINGS menu allows configuring the instrument following the user preferences.

<p>In all cases, to access to the SYSTEM SETTINGS menu, Press and hold the  key (three seconds) to enter to the MAIN MENU and select the SYSTEM SETTINGS menu. Validate with the  key.</p>	
--	---

LANGUAGE

This function allows choosing the language displayed. The resident languages in the device are: English and French.


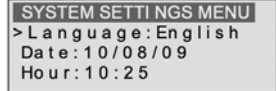





KEY	FUNCTION
<p>In the SYSTEM SETTINGS menu, select the Language function and validate with the  key.</p>	
<p>By using the  and  keys, select the language.</p>	
<p>Validate with the  key to confirm the new displayed language.</p>	



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DATE AND HOUR

The device gets a clock (hour, minutes) and an internal calendar (day, month, year) which allows dating the events and the archives.

Date

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Date function and validate with the key.	
By using the and keys, adjust the day.	
Validate with the key to skip to the month adjust. By using the and keys, adjust the month.	
Validate with the key to skip to the year adjust. By the and keys, adjust the year.	
To save the date, validate with the key.	



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Hour

Proceed in the same way as the date for setting the time.

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Hour function and validate with the key.	
By using the and keys, adjust the hour.	
Validate with the key to skip to the minutes adjust, by using the and keys, adjust the minutes.	
To save the hour, validate with the key.	

LIGHTING THE SCREEN

The brightness of the backlighting can be set so as to suit the backlighting to the ambient lighting or your personal preferences. The screen backlighting is programmable and can be altered. This adjust is from 0% (backlight off) to 100% (maximum light).

Backlighting of low brightness will save battery power. Specify a setting that suits the way you use the instrument.

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Backlight function and validate with the key.	
By using the and keys, select the backlight intensity from 0% (off) to 100% (maximum) by steps of 10%, then validate with the key	



Note: the backlight intensity is modified after the validation with the key.



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AUTO OFF

This feature conserve battery life by automatically turning the instrument off after a userdefined period of time within there has been no key activity.

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Auto Off function and validate with the key.	
By using the and keys, adjust the time before turn off, from No (never turn off) to 30 minutes. Validate with the key.	

BUZZER

The Buzzer function allows ringing beeps. When this function is on, a beep is ringing during all the measurement time. When the device detects a fail part or an alarm, a series of short beeps are ringing.

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Buzzer function and validate with the key.	
By using the and keys, select the On or Off to validate or not the beep ringing and then confirm by using the key	



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AUTOMATIC START

The Automatic start function allows validating the automatic trigger of the measurement when the accessories are making an electric contact with the part to control (current control).

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Auto Start function and validate with the key.	
By using the and keys, select On or Off to validate or not the automatic start and then confirm by using the key.	

PROGRAMS DELETION

This function will erase one or all the programs to reset them.

KEY	FUNCTION
In the SYSTEM SETTINGS menu, select the Reset program function to delete the current program or Reset all programs. To delete all the programs contained in the device. Warning! : Until the validation, the program or all the programs will be definitively deleted! Validate with the key.	
The instrument deletes the program or all.	

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The device is fitted with an internal memory greater than 1 Go only used for the results storage, that allows recording several thousands of measurements results. Each measurements carried out are automatically save at the end of the test.

The results recovery is only carried out from the WinE-XTEQ300 s of software; in t his paragraph we will show some frames examples.

Manual mode results frames (Program)

The measurements values and some parameters are stored to be export for later use.

Prog N°.	Program name	Test Current	Max Reject.	Min Reject	Measure	Unity	Results	Date	Hour	Serial N°
1	R WING	10 A	1050mΩ	0mΩ	1029	mOhm	PASS	23/09/09	09:15:48	01254
2	L WING	1A	1060mΩ	0mΩ	1012	mOhm	PASS	23/09/09	09:17:52	01254
3	NOSE	0,1A	1035mΩ	0mΩ	0	mOhm	FAIL	23/09/09	09:20:16	01254

Automatic mode frames (Sequence)

In the automatic mode the following fields will be added:

- Sequence N°.
- Sequence name (ex: battery pack reference).
- Program step in the sequence (from 1 to 999).
- User identifier.

Seq N°	Seq Name	Step	Prog N°	Name 1	Name 2	Name 3	Test current	Max Reject	Min Reject	Measure (R)	Unit	Result	Date	Hour	User	Serial N° 1	Serial N° 2
1	A320	1	9	WING	Left	Front	10 A	1050mΩ	0mΩ	1029	mOhm	PASS	04/02/13	09:55:38	Jack	01254	0101
1	A320	2	3	WING	Right	Front	1A	1060mΩ	0mΩ	1012	mOhm	FAIL	04/02/13	09:57:52	Jack	01254	0101
1	A320	3	2	NOSE	Front			mΩ	mΩ		mOhm	TO DO				01254	0101
1	A320	4	5	STAB	Right		1A	1050mΩ	0mΩ	952	mOhm	PASS	04/02/13	10:03:08	Jack	01254	0101
1	A320	5	5	STAB	Rear		1A	1075mΩ	0mΩ		mOhm	N/A	04/02/13	10:06:17	Jack	01254	0101

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The following list shows all the special cycles which are available in the instrument:

KEY	FUNCTION
Auto-test:	Special cycle used to check the test current.
Sequence delete*:	To delete the current sequence, canceling all the tests carried out in the sequence and starts the sequence from the beginning.
Tests –TO DO-*:	Allows displaying all the tests which are to do in the current sequence (or the ones which have been skipped). This is to ease the "to do" steps to retrieve.
Tests – CANCEL-*:	Allows displaying all the steps which have been cancelled in the current sequence. This is to ease the cancelled steps to retrieve.
Erase results:	This special cycle delete all the results stored in the internal memory. This operation deletes all definitively. It is advisable to make a backup of the results before deleting (see the WinE-XTEQ300 user manual).

To start a special cycle, select it in the "Special cycles" menu and press on the  key. The cycle stops automatically.

(*) For further information about the sequences and the corresponding specials cycle, see the chapter 3, paragraph 8: "Sequence mode running".



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Results deletion

This special cycle erase all the results stored in the instrument. The results will be definitively deleted. It is advisable to save them first if archiving or later statistic treatments are required. For the save, see the WinE-XTEQ300 software user manual.


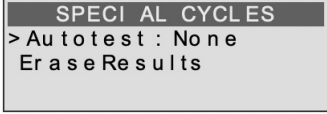

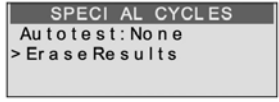

KEY	FUNCTION
Press on the  key (brief press) to enter in the Special Cycles menu.	
Select the special cycle Erase Results then confirm with the  key to delete all the results stored.	
The instrument confirms the results deletion.	



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POWER SUPPLY

The power supply (fitted with the instrument) converts a network voltage (100 to 240 VAC) into a 24 V DC low voltage supply. It has no power switch and works as soon as it is plugged in.

It allows supplying the battery device which manage itself the charge.

It is protected against surges and short circuits via a thermal fuse (do not use any other type of fuse).



Moreover, this supply can be plugged on all types of electrical plugs using different removable pins.

The instrument is not designed to work during the battery charge.

BATTERY



The 12V DC 4400 mA/h battery with Lithium Polymer (Li-Po) technology is integrated into a case of our design.

The charge is doing with the power supply which is directly plugged on the battery with a jack connector. The battery is fitted with a LED which indicates the charge state.



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The battery charge time is less than 3 hours. The charge can be carried out without the battery installed on the instrument.

See the battery use conditions in the "Safety precautions" paragraph in the appendices.

Two batteries are supplied with the instrument.

USB CABLE



The USB cable (supplied with the device) allows the connection between the instrument and a personal computer.

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PROBABLE FAILURES //////////

If a failure with the device appears, see the following list (left column) to identify the fault, make checks or actions steps (right column) in the same order.

KEY	FUNCTION
1 – The device doesn't turn on.	1) Charge fully the battery. 2) Change the battery by a new one. 3) Check the electric contacts between the battery and the device. 4) Contact the E-XTEQ after sales service.
2 – Wrong or false measures.	1) Check the battery charge. 2) Repeat the measurement test, by pressing strongly the probes to improve the contact 3) Check the quality of the electric contacts of the probes, Kelvin probes or others accessories. 4) Check the probes connection. 5) Check the wires between the probes and the device (winding, etc.). 6) Contact the E-XTEQ after sales service.
3 – Erroneous or erratic measures.	1) Check the battery charge. 2) Repeat the measurement test, by pressing strongly the probes to improve the contact 3) Check the quality of the electric contacts of the probes, Kelvin probes or others accessories. 4) Check the probes connection. 5) Check the wires between the probes and the device (winding, etc.). 6) Check the device calibration, if it fails send back the device to the E-XTEQ after sales service. 7) Contact the E-XTEQ after sales service.

The E-XTEQ Company disclaims any responsibility if the instruments calibration and adjustment would not be performed by its services.



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Safety Information



You must read and understand these safety instructions and warnings before using or charging your lithium polymer batteries.

OPERATING ENVIRONMENT //////////////

Remember to follow any special current regulations any area, and always switch off your device when its use is prohibited or when it may cause interference or danger.

Use the device only in its normal operating positions.

ABOUT CHARGING //////////////

Use only the charger supplied with your device. Use of another type of charger will result in malfunction and/or danger.

Use the specified battery in the equipment.

When the red LED is on, the device is charging, when becomes green, the charge is complete.

Avoid leaving the charged battery constantly charging (green LED on) in order to preserve its life.

ABOUT THE CHARGER //////////////

Do not use the charger in a high moisture environment. Never touch the charger when your hands or feet are wet.

Allow ventilation around the charger when using it. Do not cover the charger with paper or other objects that will reduce cooling. Do not use the charger while it is inside a carrying case.

Connect the charger to a proper power source. The voltage requirements are found on the product case and/or packaging.

Do not use the charger if the wires become damaged. Do not attempt to service the unit.

There are no serviceable parts inside. Replace the unit if it is damaged or exposed to excess moisture.

Do not use it as a power source.

Unplug it before attempting to service or clean it.

ABOUT THE BATTERY //////////////

CAUTION: This unit contains an internal Lithium Polymer battery. The battery can burst or explode, releasing hazardous chemicals. To reduce the risk of fire or burns, do not disassemble, crush, pierce or dispose of the battery or the instrument in fire or water, do not short circuit or short the contacts with a metal object.

Use a specified charger approved by the E-XTEQ manufacturer and supplied with the device.



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SAFETY FOR LITHIUM POLYMER BATTERY USE //////////////

The battery must imperatively be placed on a non-flammable surface during charging (ceramic platter or metal box).

Charge the Lithium Polymer battery **ONLY** with the charger provided.

NEVER use a Ni-MH (Nickel Metal Hydride) type battery charger to charge a Lithium Polymer battery.

If the battery begins to overheat more than 60°C (140° F), **STOP IMMEDIATELY** the charge. The battery should **NEVER** exceed 60°C (140° F) during the charging process.

NEVER charge a battery pack immediately after use and while still hot. Leave it cool down to ambient temperature.

If you see some smoke or some liquid out of the battery, stop the charge immediately. Disconnect the battery from the charger and place it in an isolated area for at least 15 minutes. **DO NOT USE THE BATTERY AGAIN**, but replace it with new one.

Keep a fire extinguisher for electrical fires handy while charging the battery. In the unlikely event that the Lithium Polymer battery will ignite, **DO NOT** use water to extinguish the fire, take some sand or fire extinguisher described above.

Do not pierce, cut or **NEVER** compress the jacket of a Lithium Polymer battery. If the battery is swelling up or if the cover is damaged, **DO NOT USE AGAIN**. Replace with a new one.

It must neutralize the Lithium Polymer battery elements unusable. The neutralization process must be performed with very strict security fit. It is recommended that you contact a specialist in this type of battery to perform this task, which is responsible to collect the battery out of use and gives to a specialized recycler.

Do not dispose of Lithium Polymer batteries to the dustbin.

To prevent leakage or other hazards, do not store batteries above 60°C (140°F). Never leave the battery inside a car (for example) where the temperature could be very high or in a place where temperatures could exceed 60°C (140°F). Store the battery in a dry place to avoid contact with liquid, whatever the type. Store the battery only on a nonflammable surface, heat resistant, non conductive and away from all flammable materials or sources. Always store the battery out of reach of children.

A Lithium Polymer battery should be stored with a minimum charge of 30%. If you store completely discharged, it will quickly become unusable.

LITHIUM BATTERIES TRANSPORTATION //////////////

The battery transport must be done with a charge less than 50%. Shippers are required to understand and comply with regulations for their national and international shipments.

The entire airline regulations is published by the International Air Transport Association (IATA) and is on the website:

<http://www.iata.org/whatwedo/cargo/dgr/Pages/lithium-batteries.aspx>



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If you don't follow these safety precautions, you may cause serious personal injury and damage to property; you may even cause a fire!

The E-XTEQ Company disclaims any responsibility for damage sustained in case of non compliance with these safety instructions.

Using a Lithium Polymer battery has a high risk of fires and can cause serious damages to property and persons, the user agrees to accept the risk and responsibility.

The E-XTEQ Company couldn't control the proper use of the battery for each customer (charge, discharge, storage etc.), It can not be held responsible for damage to persons and property.

IMPORTANT INSTRUCTIONS (FOR SERVICE PERSONNEL ONLY) //////////////



CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Replace only with the same or equivalent type recommended by the manufacturer E-XTEQ. Use the battery only in the specified equipment.

The battery must be recycled or disposed of properly.

REMINDER INFORMATION ON BATTERY PACK

Charge	Less than 3 hours for a complete charge
Discharge	More than 6 hours
Life time	More than 300 cycles of charge and discharge Battery replacement recommended every two years
Storage	The charge must be more than 30% for long storages. <ul style="list-style-type: none"> • ≤ 1 month: -20°C to +45°C (-4°F to 113°F) • ≤ 3 months: 0°C to 30°C (32°F to 86°F) • ≤ 6 months: 20°C +/- 5°C (59°F to 77°F)
Transport	The charge must be less than 50%
Power	50 Wh
Weight	0.3 kg



Do not dispose of the rechargeable Lithium-Ion battery or the device to the dustbin. These components must be collected and recycled.



The crossed-out wheeled dustbin means that within the EU the product must be taken to separate collection at the product end-of life. This applies to your tool but also to any enhancements marked with this symbol. Do not dispose of these products as unsorted municipal waste.

For further information, please contact E-XTEQ.



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YOUR E-MILLOHM IS GUARANTEED BY E-XTEQ //////////////

Warranty

****For specific customers warranty questions, please contact us directly.****

Limited Warranty

E-XTEQ LLC products are warranted to be free of defects in materials, manufacturing, and workmanship for a period of one (2) years from date of purchase. This limited warranty applies to E-XTEQ products only and does not cover any other equipment. This limited warranty DOES NOT COVER static damage, misuse or abuse, normal wear and tear, water damage, overvoltage damage, dropping the unit, causing damage to it. E-XTEQ is not responsible nor liable for any incidental or consequential damage and will be subject to warranty voidability. The warranty is also void if the client or any person outside E-XTEQ members facilities tries to disassemble the unit or to modify any of the parts or the cable assembly.

CLIENT and the Client Parties further acknowledge and agree that the total liability for any loss, physical damage, or theft while at any location other than the certified E-XTEQ Repair Locations is subject to warranty void and falls on the client.

E-XTEQ shall not be liable for any delays or damages caused by forces outside their control such as work stoppages, weather, shipping delays, acts of terrorism, war, strikes, catastrophes, or acts of God. This Warranty and any dispute between the parties will be construed under the laws of the State of Michigan without regard to conflicts of laws principles.

*Before sending a unit back for repair, an RMA (Return Materials Authorization) number must be obtained by contacting E-XTEQ Technical Support (see last page for reference). E-XTEQ will ascertain if the unit needs to come in for repair or replacement. If the unit must be replaced, E-XTEQ will provide full instructions for the end user to receive the replacement parts in the shortest delay.

What is covered and for how long?

All accessories are backed by 1-Year Warranty for manufacturer defects only.

All accessories with a 1-Year Warranty are listed below.

Please read "How to obtain warranty" instructions to receive the correct parts and prevent any charges.

ACCESSORIES:

- Power Supply
- Battery
- USB cable

E-XTEQ warrants to the original consumer purchaser that the product identified is free from defects in material and workmanship under normal use and service for the warranty period. This limited warranty does not extend to resellers, to used products that are resold. The warranty period commences upon the date of delivery to the original consumer



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What is not covered?

This Standard Limited Warranty is conditioned upon proper use of the product. This Standard Limited Warranty does not cover:

- Defects or damage caused by accident, misuse, abnormal use, abnormal conditions, improper storage, neglect, or unusual physical, electrical, or electromechanical stress.
- Defects or damage caused by exposure to liquid, moisture, dampness, weather conditions, sand, dust, or dirt that is inconsistent with the specifications and instructions applicable to the product according to the user manual and the applicable terms and conditions.
- Scratches, dents, and cosmetic damage.
- Defects or damage caused by pressing on a touch screen with excessive force or with an object for use on the product's touch screen.
- Equipment that has the serial number or the enhancement data code removed, defaced, damaged, altered, or made illegible.
- Ordinary wear and tear.
- Defects or damage caused using accessories, products, or ancillary/peripheral equipment not furnished or approved by E-XTEQ.
- Defects or damage caused by improper testing, operation, maintenance, software, installation, repair service or parts, or adjustment not furnished or approved by E-XTEQ.
- Defects or damage resulting from external causes such as collision with an object, fire, flooding, windstorm, lightning, earthquake, theft, acts of terrorism, war, strikes, catastrophes, improper use of any electrical source, or acts of God.

Warranty does not cover any product if:

- a. The use of a third-party which does not meet E-XTEQ specifications or has not been specifically approved.
- b. Tampering, as evidenced by, for example, a broken seal or seals.
- c. The product was subjected to external forces beyond normal use; or
- d. Product repair not furnished or approved by E-XTEQ.

If the product has any non-warranted damage, after-market modifications or out-of-specification, or non-approved parts that impair E-XTEQ's ability to evaluate whether damage or defects are covered by the warranty or E-XTEQ ability to make an in-warranty repair (e.g., a cracked screen that must first be removed), then E-XTEQ will notify you and you will have the following options:

- You may have E-XTEQ return the product to you at your cost and, at your option, resubmit the product for warranty evaluation of in-warranty repair after the impairing condition has been repaired, corrected, or reversed; or replaced.
- You may have E-XTEQ repair, correct, or reverse the impairing condition at your cost, prior to E-XTEQ's provision of such warranty evaluation or in-warranty repair. E-XTEQ will not make any warranty determinations or repairs until the impairing condition has been repaired, corrected, or reversed. Under no circumstances will E-XTEQ be obligated to maintain, restore, or repair any after-market changes to the Product's hardware.

What is E-XTEQ's obligations?

During the applicable warranty period, provided the Product is returned to E-XTEQ in accordance with the terms of this Standard Limited Warranty and exhibits an in-warranty defect, E-XTEQ will, at E-XTEQ's sole option, either repair the in-warranty defect without charge, subject to the conditions above or replace the product without charge. E-XTEQ may, at E-XTEQ's sole option, use rebuilt, reconditioned, or new parts or components when repairing any product, or may replace the product with a rebuilt, reconditioned, or new product. All repaired/replaced products will be covered by the terms of E-XTEQ Standard Limited Warranty for a period equal to the remainder of the original Standard Limited Warranty on the original product or for ninety (90) days, whichever is longer. All replaced products, parts, components, boards, and equipment shall become the property of E-XTEQ. Except to any extent required by applicable law, transfer or assignment of this Standard Limited Warranty is prohibited.

During the applicable warranty period, provided the product is returned in accordance with the terms of this Standard Limited Warranty, E-XTEQ will repair or replace the Product, at E-XTEQ's sole option, without charge. E-XTEQ will, at E-XTEQ's sole option, either repair the in-warranty defect without charge, subject to the conditions above or replace the product without charge. E-XTEQ may, at E-XTEQ's sole option, use rebuilt, reconditioned, or new parts or components when repairing any product, or may replace the product with a rebuilt, reconditioned, or new product.



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What must you do to obtain warranty service?

To obtain service under this Standard Limited Warranty, you must contact E-XTEQ Customer Support department, and provide the information needed by the support team. Once the information provided by the customer is confirmed, the support team will provide different service options.

Before sending a unit back for repair, an RMA (Return Materials Authorization) number must be obtained by E-XTEQ Technical Support. Devices/tools must be shipped for repair with the RMA number provided by E-XTEQ support team, or accompanied by, the sales receipt or comparable proof of purchase showing the original date of purchase by the original consumer purchaser, the serial number of the Product, and the seller's name and address.

If E-XTEQ determines that any Product is not covered by this Standard Limited Warranty, you must pay all parts, shipping, and labor charges for the repair or return of such Product.

What are the limits on E-XTEQ's liability?

This standard limited warranty sets out the full extent of E-XTEQ's responsibilities and the exclusive remedy regarding the products.

All implied warranties, including without limitation, implied warranties of merchantability and fitness for a particular purpose, are limited to the duration of this limited warranty. In no event shall E-XTEQ be liable for damages more than the purchase price of the product or for, without limitation, commercial loss of any sort; loss of use, time, reputation, opportunity, goodwill, profits or savings; inconvenience; loss, corruption, or disclosure of data or information that occurs during the warranty process; incidental, special, consequential or punitive damages; or damages arising from the use or inability to use the product. Some states and jurisdictions do not allow limitations on how long an implied warranty lasts, or the disclaimer or limitation of incidental or consequential damages, so the above limitations and disclaimers may not apply to you.

E-XTEQ makes no warranties or representations, express or implied, statutory or otherwise, as to the quality, capabilities, operations, performance or suitability of any third-party software or equipment used in conjunction with the product, or the ability to integrate any such software or equipment with the product, whether such third-party software or equipment is included with the product distributed by E-XTEQ or otherwise. Responsibility for the quality, capabilities, operations, performance, and suitability of any such third-party software or equipment rests solely with the user and the direct vendor, owner or supplier of such third-party software or equipment.



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Nothing contained in the user manual, or any other document shall be construed to create an express warranty of any kind with respect to the product. No agent, employee, dealer, representative or reseller is authorized to modify or extend this standard limited warranty or to make binding representations or claims, whether in advertising, presentations or otherwise, on behalf of E-XTEQ regarding the products or this standard limited warranty.

Severability

If any portion of this Standard Limited Warranty is held to be illegal or unenforceable, such partial illegality or unenforceability shall not affect the enforceability of the remainder of the Standard Limited Warranty.

You may not reproduce any content in whole or in part without E-XTEQ's prior written approval, except for your own personal use.

YOUR E-MILLIOHM IS GUARANTEED BY E-XTEQ !!!!!!!!!

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YOUR E-MILLIOHM IS GUARANTEED BY E-XTEQ !!!!!!!!!

Before sending a unit back for repair, an RMA (Return Materials Authorization) number must be obtained by contacting Distributor Technical Support: support.eu@e-xteq.com for EU and support.usa@e-xteq.com for US.



*Paris, Singapore, Detroit, Nagoya, Sao Paulo, Shanghai, Taiwan,
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