

# MM513

## Instructions for Use (IFU)

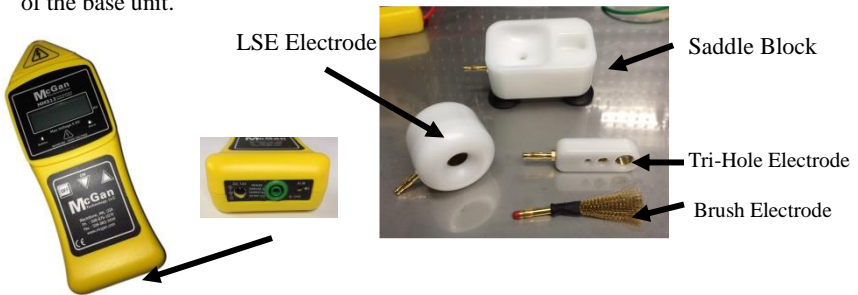
**CAUTION:** Please read the full MM513 manual in detail before operating the unit. Review all warnings noted in the manual.

**Use:** MM513 is a low frequency high voltage *insulation defect tester* seeking crack and pinholes in the jacket or coating of laparoscopic and bi-polar electro-surgical instruments.

**Description:** The MM513 system is a non-destructive, non-patient contact tester designed to test the insulation integrity of electro-surgical instruments.

**It should only be used in the Central Sterile area ONLY.**

1. Remove the MM513 unit and accessories from the carrying case.
2. Take the Green ground wire and firmly insert it into the green port on the bottom of the base unit.

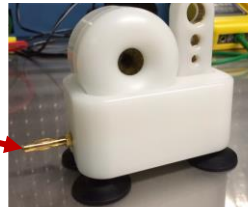


3. Secure the Saddle block to a flat, preferably metal surface, by pushing the top of the unit until the suction feet stick to the surface.
4. There are a number of ways to set the Saddle Block up depending upon the electro-surgical instrument (ESI) to be tested and/or the McGan kit used.
5. Attach the red port on the top of the MM513 unit directly to the side pin of the Saddle Block.. Make sure controls face up



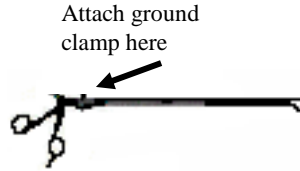
MM513  
attached directly  
to pin

The LSE and Tri-Hole  
Electrodes mounted in Saddle  
Block



6. Insert the chosen electrode securely into the proper slot on the Saddle Block

7. Take the clamp on the green ground wire and attach it to the conductive core of the instrument under test.



8. Turn the base unit on and set the voltage to 2.8kV +/- 0.3kV
9. Check Battery LED indication colors: Red = Battery Flat Blue = Charging  
Green = Battery Full
  - a. If battery level is blue or red recharge unit using the adapter supplied with the MM513 kit
  - b. use of any other charger may cause damage to the MM513 unit and void warranty**

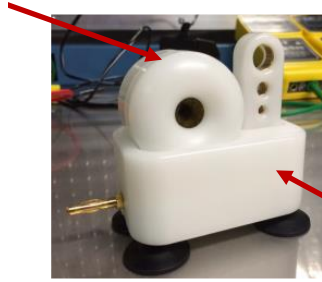
**CAUTION: DO NOT** simultaneously handle the brush electrode and ground clamp as it will cause a mild “tingle”. **Use surgical gloves as a precaution against receiving the “tingle”.**

10. Follow the following steps:
  - a. Push the ESI under test through the LSE ring electrode slowly (approximately 3 feet every 4 seconds)
  - b. The Alarm will sound when the ESI is first inserted into the electrode as that is the bare tip (distal tip) of the instrument.
  - c. Alarm will sound and LED will Flash if a defect is found in the coating which will indicate a fault with the instrument’s coating.
11. After the test is completed turn the base unit off and remove the clamp end from the unit under test, remove the electrode from the probe wire and remove the ground wire and probe wire from the base unit. Properly store the unit and accessories away preferably in the supplied case.
12. Follow the proper established hospital procedure after testing is completed with regards to the instrument under test.

#### **NOTES:**

- A. The unit should always be switched off prior to removing or repositioning of the ground lead, the HV red wire or the Saddle Block..
- B. If the unit is on and you touch the ground lead (clamp end) and the probe end of the base unit at the same time you will receive a very mild “tingle”. To remove the possibility of receiving the “tingle” always use surgical gloves when handling the leads.
- C. You can hold the Saddle Block from the top or the sides as long as you do not touch the connection points.

Hold on the top



Hold on the sides of the base

**Note: Using the Tri-Hole Electrode:**

The Set-up is the same as shown above except turn the voltage to 4.2KV +/- 0.3KV

- a. Insert the round electro-surgical instrument into hole size closest to the diameter of the ESI under test. NOTE: Hole sizes are 0.5mm larger than 3mm, 5mm and 10mm from the bottom (pin side, saddle) up.

**For Bi-Polar Instruments: (wear gloves)**

- a. The Set-up is the same as the steps in #5
- b. Place the Brush Electrode into the Saddle Block in the slot on the right side away from the pin.



- a. Attach the Green ground wire to the back end of the bi-Polar forceps. Make sure the clamp is connected to both pins.
- b. Insert the end of one tine of the Bi-Polar forceps into the middle of the brush,



- c. Turn the base unit on and set the voltage to 2.8kV +/- 0.3kV
- d. Slowly push the Bi-Polar forceps away from you. Go from the tip of the forceps to the base.
- e. Repeat using the second tine.
- f. Turn the Bi-Polar forceps over and repeat the test of both tines
- g. Alarm will sound and LED will Flash if a fault is found in the coating which will indicate a fault with the instrument

**For Bi-Polar Instruments using McGan's Bi-Polar Test Fixture (Wear Gloves)**

Uses the OPTIONAL Bi-Polar Fixture and HV (red) wire with the yellow handle

- a. Take the Green ground wire and firmly insert it into the green port on the bottom of the base unit and attach the clamp to the pin on the saddle block..
- b. Insert the HV (red) wire firmly into the red port - top of the base unit.
- c. Insert the brush into the yellow handle of the HV (red) wire
- d. Insert the Bi-Polar fixture into the Saddleblock in the large port (nearest the pin)
- e. Insert the Bi-Polar instrument into the top of the Bi-Polar fixture
- f. Turn the base unit on and set the voltage to 2.8kV +/- 0.3kV
- g. With gloves on- Hold the Bi-Polar instrument at the junction of the instrument and Fixture.
- h. Using the brush in contact with the first tine slowly brush from the tip of the forceps to the base on the outside of the tine.
- i. Repeat step "h" going on the inside of the tine
- j. Repeat steps "h" and "j" using the second tine.
- k. Alarm will sound and LED will Flash if a fault is found in the coating which will indicate a fault with the instrument
- l. When testing is complete Follow steps 11 and 12



Bi-Polar fixture



Bi-Polar fixture positioned in slot  
Step "d"



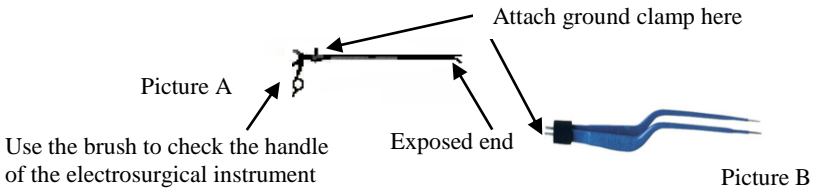
Bi-Polar instrument inserted in  
fixture. Step "e"

## OPTIONAL Assembly

1. Insert wire brush or ring or Tri-hole electrode firmly into the Red port on the top of the base unit (red port) (optional)

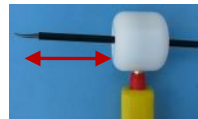
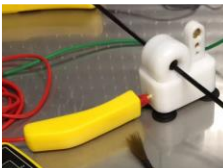


1. Attach the clamp end of the (Green) ground wire to conductive core of instrument under examination. See Picture A and B for illustrations.



## Using the Optional HV RED Lead (PN MMRWP-006 not included in kit)

1. Insert the Red HV lead probe wire firmly into the red port - top of the MM513 base unit.
2. Insert wire saddle, brush, ring or Tri-hole electrode firmly into end of yellow handle and repeat steps 9-12



**The Lithium Polymer Battery can only be replaced at the McGan facility.  
DO NOT attempt to replace the Battery**

## **Care and Usage of Battery in MM513**

### **Usage:**

Every three months by charging and discharging the battery in the MM513.

Do not lay the battery close to the heat source or expose in the sunshine for long time. High temperature will shorten its working life.

### **Storage:**

The MM513 with the battery should be stored within a proper temperature range  $-4^{\circ}$  to  $+140^{\circ}\text{F}$  ( $-20^{\circ}$  TO  $60^{\circ}\text{C}$ ).

## MM513 Parts and Description

Part Number	Description
MM513-110	Base unit
MM513-120	AC battery charger
MMGWC-0005L	Ground wire (green) with Large alligator clip
MMRWP-0006	HV lead (red) with mini-handle
MMBRU-0007	8mm Brush electrode
MMLSE-0029	LS Ring Electrode
MMTRI-0022A	Tri-Hole Electrode
MMSBT-170	Saddle Block Only
MMBT-190	Bi-Polar Test Fixture
MM513-100	Kit contains the base unit, battery, AC charger, HV and ground leads, brush, ring, Tri-Hole electrodes, Saddle Block, Quick Start Manuals, Training CD and carrying case
MM513-102	Carrying case with cut foam
MM513-130R	Lithium Polymer Battery
MMWIT-200A	Wire Test Fixture with HV Red Wire

**For Further Instructions and Cleaning of the components read the full MM513 Operational Manual or Contact McGan Technology**



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The logo for McGan Technology is centered on a white background. It consists of a dark blue shield-like shape with a yellow border at the bottom. Inside the shield, the word "McGan" is written in a large, bold, white sans-serif font. Below "McGan", the word "Technology" is written in a smaller, white sans-serif font.

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