

# VFT

## Fencing Equipment Tester

### User manual



The device is suitable for checking weapons and body wires used in fencing sports, for quick fault finding and for certification in international competitions.

All resistance values specified by the FIE for electrical parts of equipment (electric jacket, cable reels, connecting cables, aluminium/carpet piste, weapons, wires) can be measured by connecting a suitable measuring cable.

The use of the device is particularly recommended for armourers, fencing clubs and for competition weapon controls.

## **Technical information**

### **Dimensions, parameters**

The VFT is a measuring device in an extruded aluminum housing, which complies with the European Union standards according to the Measuring Instruments Directives, the Community directives requiring CE marking and the relevant regulations.

### **Dimensions**

Width x height x depth: 160x125x55mm

Weight: 700 gramm (with battery included)

### **Electricity supply**

Required voltage: 5 VDC (Power supply included)

Built-in Li-ion battery (3.6V 2500mAh)

Power consumption: 0.2A on average, up to 1A when charging a depleted battery.

The built-in battery ensures portability and off-grid measurement.

With continuous battery measurement, the expected operating time is 8 hours, from fully charged to shutdown. Information on the battery charge is shown in the top right corner of the display.

**Warning: if the VFT meter operates from a foreign power supply connected to the mains, make sure that the power supply is double insulated and will not be shorted. Also make sure that the electrical network has an automatic current protection switch with a maximum threshold of 30mA.**

## **Using the device:**

Connect the power supply of the device to the micro USB connector on the side of the device and the other end to the mains (110-240V), then switch it on using the red push button on top. The device includes a battery, so if it is charged it will work without being connected to the mains.

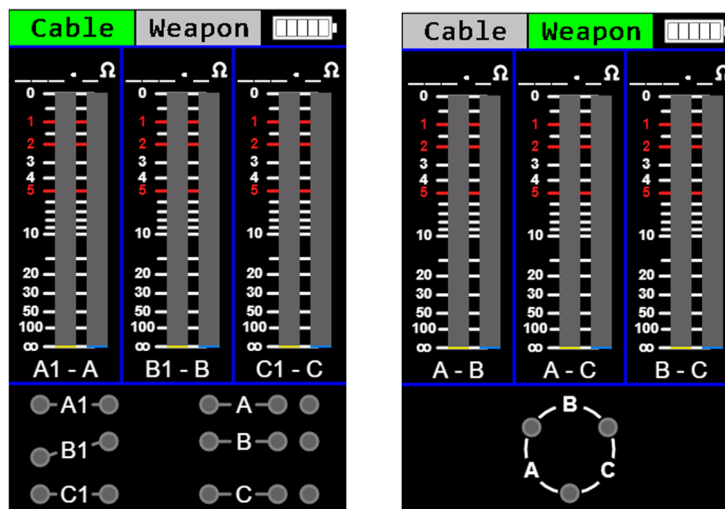
After switching on, the language selection page appears. The language last set will always be displayed. If it is correct, just wait 3 seconds and it will continue.

If you want to change language, you must press the gray language button within 3 seconds to switch to the next language. After each press, the timer will restart. Keep pressing the button until you reach the language you want (English, French, German, Hungarian, Italian).

The device has two modes, cable test and weapon test. It will always default to the last mode you set.



1. Switching modes is done by pressing the gray button while the selected mode is illuminated in green. The battery status is displayed in the top right corner.
2. Below are three measurement fields each field has two vertical analogue strips for reading the values. The left one shows the current resistance value, while the right one gives information about the fluctuation. The current resistance value can be read digitally above the strips. Below the strips, the field indicates which values are valid between the terminals.
3. Feedback information is displayed at the bottom of the screen



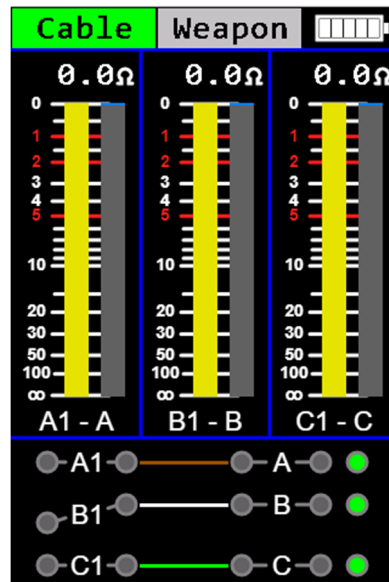
When troubleshooting, it is very advantageous to measure the fluctuation, which works as follows. When a cable is connected, the resistance is set to the correct value. The fluctuation is then also set to the current value, followed by two seconds. After the two seconds, it will indicate the change between the minimum and maximum value in blue. The variation will remain until the resistance value increases to infinity after three seconds.

Contact faults are thus easy to detect.

For example, if you connect a cable reel and then continuously pull the cable out of the reel and back in again, you can check how much its resistance has fluctuated and within what range. This can of course be checked with any cable or weapon.

## Cable testing:

Plug the 3 pins cable plug into the sockets marked "A,B,C" on the top. If you are testing a "Epée" wire, insert the other 3 pins plug into socket marked "A1, B1, C1", and for a "Foil-Sabre" wire into socket 2 marked "B1, C1", and clip the clamp onto the pin "A1". The device will measure the resistance of all three cores simultaneously, which should be between 0-1 ohm, and the correctness of the wiring. You can also check the correct wiring at the bottom, the small rings "A, B, C" will light up green. If something is connected incorrectly (crossed) or not conducting, it is also visible. And by moving the cable you can check for a contact fault.



## Weapon testing:

The weapon must be connected to the sockets marked "A, B, C" on the top. The lower part of the display always shows which points are locked, either at rest or with the tip depressed.

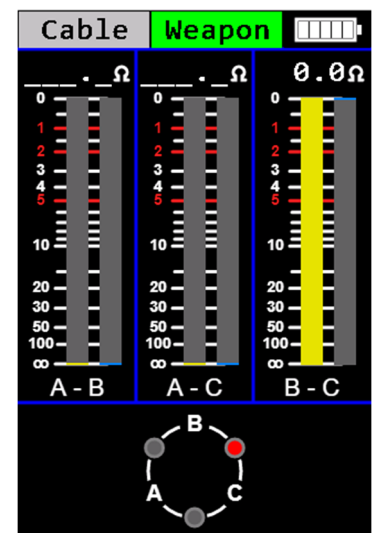
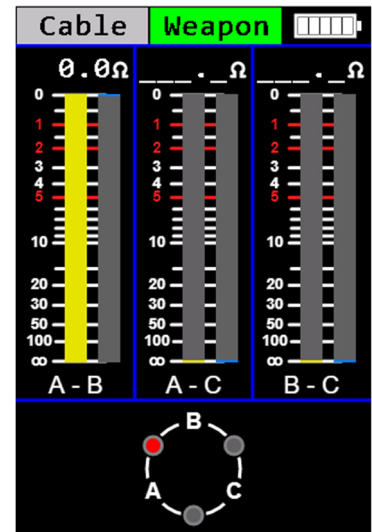
**Epée:** When the épée's point is depressed, the meter should read between 0 and 2 ohms "A to B". If the resistance does not drop below 2 ohms, it is broken or has a contact fault. Weight and gauge measurements can be taken without any connection. When the weight is pressed down on the lever, the meter shall show a resistance between 0 and 2 ohms, and when the weight is released, no resistance shall be shown. If the gauges in case is inserted into the tip and then the point is pressed down, the gauge should show no resistance.

**Foil:** When the foil is at rest, the value between "B-C" should be between 0 and 2 ohms. If this value is greater or shows no resistance, there is a contact fault or a broken wire. When the point is depressed, the value should disappear. If it does not disappear then there is a short in the foil. Weight measurement can also be done here, as with the épée. When the weight is pressed down, the "B-C" value should disappear and when the weight is released, it should read between 0 and 2 ohms.

**Sabre:** After connecting the weapon, the "B-C" value should be between 0-1 ohm.

## Measurement of any other resistance

In the device cable mode, the measuring cable is connected to the "A" and "A1" sockets and the resistance value can be measured. In this way we can test electric jackets, piste and other resistances.



## **Safety requirements**

- Maintenance should only be carried out by qualified personnel!
- Protect the device from mechanical shocks.
- It is essential to follow the instructions in the instructions for use.
- Any abnormalities you notice should be checked by a specialist immediately.
- The appliance must not be covered and proper ventilation must be ensured. The relevant regulations of the competent fire protection authority and fire safety regulations must be fully complied with.
- During operation, the mains connection, operating and contact protection regulations apply.

## **Guarantee**

If the product is defective or if the defect occurs later in use, the consumer has two years from the date of delivery of the consumer goods to exercise his or her rights under Directive 1999/44/EC, the same legislation that applies to all EU countries.

In all cases, you should contact the retailer where you purchased the product to complain about a product malfunction.