TBOX COMPETITION

Short operating instruction

03.09.20 Rev.A5 m. (subject to change)

Key facts

Description: TBox Competition
Ref.: 13620
Price: 231,09 Euro/net
Measurement: 11 x 7 x 3,5 cm
Weight: 0,186 kg

Introduction

The TBOX Competition is a precision measuring device that can test weapons, cables and conductive materials (vest, mask bib). Six test modes are currently available (3 for weapons, 2 for cables and 1 for conductive materials). The handy test device is powered by a 9 V block battery and operated with just one button. Alternatively, it can be supplied with voltage via the integrated micro-USB port and remotely controlled by using an app. Thanks to the visualization of the results in the app and standardized test routines, the device can also be used for FIE weapon control optimally. A total of 6 bright RBG LED are available to signal the test mode and the measuring results. Measuring results are partly given by an acoustic signal. The device has a Kensington lock device and it can be stored theft protected. Software updates or functional expansions can easily be uploaded via the micro-USB in connection with a laptop / PC.

Appliance

The test device is operated with just one button.
Pressing and holding the white button switches the device on and off or changes the test mode.
Briefly pressing the key resets the measuring results of the current test mode and the measuring starts again.

The device has a total of six RGB LED. Each individual LED can light up in different colors. Three LED are arranged directly above the button and signal the current test mode (mode LED). If one of the three mode LED is red, a weapon test mode is selected. If one of the mode LED is green, a cable test mode or conductive substance test is selected. If a LED is blue, the test mode is for permanently installed or long lines.

The remaining three LEDs are arranged one above the other on the right side and signal the measuring results of the individual measuring (measuring LED). When testing the cable, each LED corresponds to a wire in the cable.

To switch the device on in battery mode, press and hold the button. The device switches on automatically, if voltage is supplied through the micro USB socket. An optional power supply unit (ref. 13620-2) is available for this purpose. Of course, any other 5V USB power supply unit can be used. Micro-USB connection cables are optionally available (LN5589). When the device will be switched on, a self-test will be carried out. If this is successful, all six LED light up white.
The status of the battery is indicated by the measuring LED in battery mode.
Three measuring LED green -> battery OK
Two measuring LED yellow -> battery weak
One measuring LED red -> battery very weak
If the battery is very weak, it should be replaced or the device should be supplied with voltage via the micro-USB connection. The device can be used, even if the battery is very weak. However the battery can become too weak at any time (three red flashing mode LED) and can no longer be used.

In battery mode, the device is automatically switched off after 30 seconds of inactivity. To switch off the device manually, hold the button down until all three mode LED are off. As soon as you release the button, the device is switched off. If the device is supplied with voltage via USB, it always remains switched on and is always ready for use.

Check mode 1: Epee

Connect the epee to a body cord on the right side of the tester. Press the button on the device and hold it down until the left mode LED lights up red. Release the button now. The upper measuring LED signals the resistance of the epee wire. The LED lights up green for a resistance <= 3.0 Ohm
yellow for a resistance between 3.1 ohms and 5 ohms
red for a resistance between 5.1 ohms and 10 ohms.
The LED does not light up if the resistance is > 10.0 Ohm.
In addition, a resistance <= 3.0 ohms is indicated by an acoustic signal. To test the insulation of the tip / wire to the blade / guard, hold down the tip contact of the weapon and bend the blade in all directions. If the lower measuring LED lights up red, there was a short connection between the tip / wire and the blade / guard. This signaling remains visible until the measurements are reset by briefly pressing the button. Even the shortest connections can be discovered and signaled.

Check mode 2: Foil

Connect a foil to a body cord on the right side of the tester. The crocodile clip for connecting the vest can be attached to the conductive fabric part at the top of the device. Press the button on the device and hold it down until the middle mode LED lights up red. Release the button now.
The lower measuring LED signals the resistance of the foil. The LED lights up
green for a resistance <= 3.0 Ohm
yellow for a resistance between 3.1 ohms and 5 ohms
red for a resistance between 5.1 ohms and 10 ohms.
The LED does not light up if the resistance is> 10.0 Ohm.
In addition, a resistance> 3.0 Ohm is indicated by an acoustic signal.
If the upper measurement LED lights up red, a connection between the foil and the vest connection was briefly established. This signaling remains visible until the measurements are reset by briefly pressing the button

Check mode 3: Sabre

Connect a saber to a body cord on the right side of the tester. The crocodile clip for connecting the vest can be attached to the conductive fabric part at the top of the device. Press the button on the device and hold it down until the right mode LED lights up red. Release the button now.
The lower measuring LED signals the resistance or micro-interruption of the saber. The LED lights up
green for a resistance <= 3.0 Ohm
yellow for a resistance between 3.1 ohms and 5 ohms
red for a resistance between 5.1 ohms and 10 ohms.
The LED does not light up if the resistance is> 10.0 Ohm.
Micro interruptions are indicated by a red LED. The worst signaled value remains visible until the measurements are reset by briefly pressing the key.
In addition, a change in resistance from <= 3.0 Ohm to > 3.0 Ohm is signaled once by an acoustic signal.
If the upper measurement LED lights up red, a connection between the saber and the vest connection was briefly established. This signaling remains visible until the measurements are reset by briefly pressing the button.

Check mode 4: Cable, cable reel

Connect the cable to be tested to the test device. To do this, insert the plugs on the right and left side into the sockets of the device. You plug the 2-pin plug into the socket provided on the left. The crocodile clip is clamped to the piece of conductive fabric on the top. Cable reels are connected to the device with two additional body cables. Press the button on the device and hold it down until the left mode LED lights up green. Release the button now.
The cable test will be carried out in two steps.
First of all, there is an assembly test. It will be checked whether the cable cores are mixed up, short-circuited or interrupted. Each of the three measuring LED corresponds to a wire in the cable. If wires are short-circuited or interrupted, the two measuring LED assigned to the wires light up red. If the wires are mixed up, the measurement LED assigned to the wires flash red.
After the assembly test, there is a continuous resistance measuring with detection of micro-interruptions in each wire. The LED light up
green for a resistance <= 3.0 Ohm
yellow for a resistance between 3.1 ohms and 5.0 ohms
red for a resistance> 5.0 Ohm.
Micro interruptions are also indicated by a red LED. The worst signaled value remains visible until the measurements are reset by briefly pressing the key.
In addition, a change in resistance per wire from <= 5.0 Ohm to> 5.0 Ohm is signaled once by an acoustic signal.

Check Mode 5: Conductive clothes (vest / mask bib)

Connect the optionally available manual tester FIE 500g to the test device at the two upper sockets on the left and right side of the device. Connect the crocodile clip of manual tester to the device. Press the button on the device and hold it down until the middle mode LED lights up green. Release the button now. Guide the optionally available test weight over the test object without applying pressure so that the tip of the test weight touches the test object.
The upper measuring LED signals the resistance of the conductive material. The LED lights up
green for a resistance <= 5.0 Ohm
red for a resistance between 5.1 ohms and 10 ohms.
The LED does not light up if the resistance is > 10.0 Ohm.
In addition, every change in resistance from <= 5.0 Ohm to> 5.0 Ohm is signaled by an acoustic signal.

Check mode 6: Installation cables and permanently installed wires

This test mode can be used for measuring the permanently installed cables or other long wires when the cable ends are spatially separated from each other. The measuring accessory (ref. 13620-1) is required. Connect the test accessory to one side of the cable that has to be measured. The other end of the cable is connected to the right side of the tester using the adapter on the test accessory. Press the button on the device and hold it down until the left mode LED lights up blue. Release the button now.
The three measuring LED indicate the resistance of the three wires. Each LED corresponds to one wire:

- LED lights up green ◊ resistance of this wire <3.0 Ohm
- LED lights up red ◊ Resistance of this wire> = 3.0 Ohm
- LED does not light up ◊ Wire has a short circuit

Attention: Interchanged wires cannot be measured and displayed in this mode. An exact resistance measuring for each wire is only possible, if all three wires are connected and have a resistance of < 50 Ohm.

View from above

View right side

View left side

Optional accessories:

- 13620-1
  Measurement accessories for test mode 6
- 136215
  Tester for metal vests FIE 500g, manual
- 12732
  Test weight 250g
- 12731
  Test weight 500g
- 12730
  Test weight universal (750g)
- 13620-2
  USB plug-in power supply unit with USB connection cable for operating the test device without a battery. The test device can be connected to a PC with the USB connection cable.

Safety instructions:

Make yourself familiar with the safety precautions and these operating instructions carefully before switching on the device.
Only operate the test device with the optionally available plug-in power supply unit (ref. 13620-2) to a mains supply at a voltage of 100-240 V ~ / 50 Hz. The devices should only be connected to the electricity supply system after all cables have been installed. For absolutely safe disconnection from the mains supply in case of emergency, you must pull the plug-in power supply unit out of the socket.
Unplug the power adapter before cleaning the device. Use a dry cloth for cleaning.
Do not expose the device to direct sunlight.
The device should be placed on a safe, solid surface.
The device shouldn’t be set up in rooms with high humidity, as condensation can lead to malfunctions or damage.
Heating or heat sources that are too close to the device can also lead to malfunctions or damage.
Avoid contact of the device with water or moisture.
The ambient temperature of the device should not exceed 40 °C.

Service/Repairs

Have all necessary repairs carried out by authorized specialists only.
Adjust only those settings that are described in the operating instructions.
Adjusting other parameters can cause costly repairs.
Do not try to open the device yourself. Unauthorized opening of the device leads to loss of guarantee.
In the following cases, you should unplug the power adapter from the socket and get an advice from qualified manpower.

- Defective power cord or socket
- The device has been exposed to moisture or rain. Water has penetrated or an object has fallen into the device
- The device shows serious functional changes and is not working correctly
- The device has been dropped or the case is damaged

Waste disposal

"Electronic devices do not belong in household waste, but must be properly disposed of on electrical and electronic equipment waste according to DIRECTIVE 2002/96 / EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of January 27, 2003.
Please take this device to the designated public collection point for disposal at the end of its useful life!